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ABSTRACT

This learning module on developing local plans for vocational education (Part I) is one of six competency-based modules designed for both preservice and inservice education of vocational education administrators. It reviews legislative requirements for planning and discusses the role of the vocational administrator and other key personnel in the planning process, a recommended nine-step program planning model is also presented with an overview of the purpose and nature of each step (the first four steps are presented.) Provided are five self-paced learning activities, including performance objectives, information sheets, and student self-checks with model answers provided. The fifth learning activity (to be performed in an actual setting) is to be assessed by a qualified resource person. A performance assessment form for this final activity is provided. Also contained in this module is a list of resources (materials, people) needed for the activities and a list of defined terms used in the module. This module is basically self-contained but it is recommended that a qualified resource person guide, assist, and evaluate the learner's progress. (A final report of the project that developed these modules is available in two documents--CE 016 505-506. A guide on use of the modules is available as CE 016 507.) (JH)

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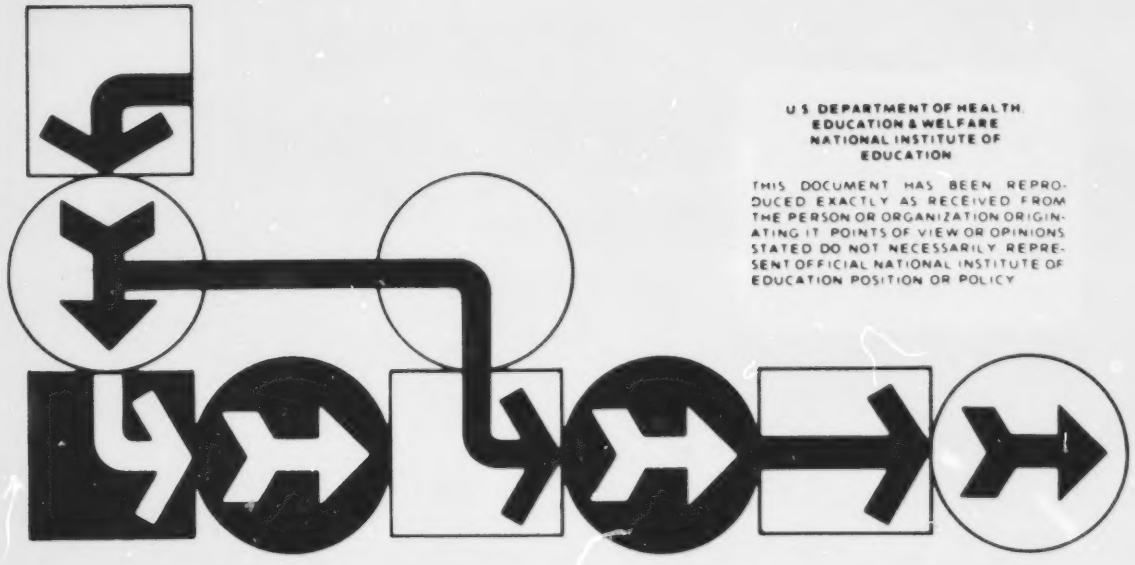
Leadership and Training Series No. 58B-5

DEVELOP LOCAL PLANS FOR
VOCATIONAL EDUCATION: PART I



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Competency-Based Vocational Education Administrator Module

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THE CENTER FOR VOCATIONAL EDUCATION
The Ohio State University · 1960 Kenny Road · Columbus, Ohio 43210

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- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

Leadership and Training Series No. 58B-5

DEVELOP LOCAL PLANS FOR VOCATIONAL EDUCATION: PART I

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FOREWORD

The need for strong and competent administrators of vocational education has long been recognized. The rapid expansion of vocational education programs and increased student enrollments have resulted in a need for increasing numbers of trained vocational administrators at both the secondary and post-secondary level. Preservice and inservice administrators need to be well prepared for the complex and unique skills required to successfully direct vocational programs.

The effective training of local administrators has been hampered by the limited knowledge of the competencies needed by local administrators and by the limited availability of competency-based materials for the preparation of vocational administrators. In response to this pressing need, the Occupational and Adult Education Branch of the U.S. Office of Education, under provisions of Part C--Research of the Vocational Education Amendments of 1968, funded The Center for a scope of work entitled "Development of Competency-Based Instructional Materials for Local Administrators of Vocational Education."

The project had two major objectives as follows:

- To conduct research to identify and nationally verify the competencies considered important to local administrators of vocational education.

- To develop and field test a series of prototypic competency-based instructional packages and a user's guide.

The identification of competencies was based upon input from a select group of experienced vocational administrators participating in a DACUM (Developing A Curriculum) workshop and the results of an extensive and comprehensive literature search and review. The merger of the DACUM and literature review task statements resulted in a list of 191 task statements that described all known functions and responsibilities of secondary and post-secondary vocational administrators. These task statements were submitted by questionnaire to a select national group of 130 experienced secondary and post-secondary administrators of vocational education for verification. Ninety-two percent (92%) of these administrators responded to the verification questionnaire and indicated that 166 of the 191 statements were competencies important (median score of 3.0 or higher) to the job of vocational administrator. For additional information about the procedures used to establish the research base upon which this and other modules in the series were developed, see The Identification and National Verification of Competencies Important to Secondary and Post-secondary Administrators of Vocational Education, available from The Center for Vocational Education.

High priority competencies were identified and six prototypic modules and a user's guide were developed, field tested, and revised. The materials are organized in modular form for use by both preservice and inservice vocational administrators. Each module includes performance objectives, information sheets, learning activities, and feedback devices to help the module user

(learner) acquire the specified competency. While the modules are basically self-contained, requiring few outside resources, they are not entirely self-instructional. A qualified resource person (instructor) is required to guide, assist, and evaluate the learner's progress.

The titles of the modules, which reflect the competencies covered are:

- Organize and Work with a Local Vocational Education Advisory Council
- Supervise Vocational Education Personnel
- Appraise the Personnel Development Needs of Vocational Teachers
- Establish a Student Placement Service and Coordinate Follow-up Studies
- Develop Local Plans for Vocational Education: Part I
- Develop Local Plans for Vocational Education: Part II

For more information on the development and field testing procedures used, see The Development of Competency-Based Instructional Materials for the Preparation of Local Administrators of Secondary and Post-Secondary Vocational Education. For more information about the nature and use of the modules, see the Guide to Using Competency-Based Vocational Education Administrator Materials. Both of these documents are available from The Center.

Several persons contributed to the development of this module on developing local program plans for vocational education. Robert E. Norton, Project Director, assumed major responsibility for reviewing the literature on educational needs assessment and vocational education program planning techniques, and for writing the manuscript. Barry Hobart, Graduate Research Associate, took major responsibility for drafting the information sheet on manpower needs. Recognition also goes to Roger E. Hamlin of Michigan State University, who, as a consultant, drafted portions of the information sheets; and to Gonzalo Garcia, Graduate Research Associate, for his search and review of the literature and assistance with portions of the module. Credit also goes to Kristy L. Ross, Program Assistant, for her editing and formatting of the manuscript; and to James B. Hamilton, Professional Development in Vocational Education Program Director, for his administrative assistance.

Finally appreciation is also extended to Russ Gardner, Kent State University; Aaron J. Miller, Ohio State University; Don McNelly, University of Tennessee; and Charles Parker, Utah State University; who served as field site coordinators for the field testing; and to the local administrators of vocational education who used the modules and provided valuable feedback and suggestions for their improvement.

Robert E. Taylor
Executive Director
The Center for Vocational Education

INTRODUCTION

Vocational education programs at the local level have long endeavored to provide quality programs and related support services. The rapid growth of vocational education, stimulated in part by state and federal legislation, demands that vocational education serve more students than ever before. In response local school districts, post-secondary vocational-technical schools, and community colleges have developed expanded and innovative programs to meet the changing needs of individuals and the communities in which they live.

Local administrators of these vocational programs at all levels must provide the competent leadership necessary to effectively plan, develop, and operate these comprehensive programs. The planning required must be systematic, data-based, and responsive to the real needs of individuals and society. Important decisions must be made about how the school's always limited financial resources can be most effectively and efficiently used to meet the most important human needs.

The planning and design of relevant vocational programs and support services does not occur by chance. The armchair decision-making approaches frequently used in the past will no longer suffice. The local administrator must assume leadership for comprehensive needs assessment and program planning for vocational education. The students of our vocational programs are deserving of nothing less, and the new federal vocational education amendments demand such planning go into the development of annual applications, if federal funds are to be used.

This module is the first of two dealing with the development of local plans for vocational education. This module presents a suggested Vocational Education Planning Model and is designed to give you leadership competencies in analyzing your community planning base, assessing individual needs and interests, assessing manpower needs and, based on those inputs, skill in determining the vocational programs and support services needed. Your role in giving leadership to these needs assessment and program planning activities is vital to their being effectively carried out.

The second module (Develop Local Plans for Vocational Education: Part II) is a continuation of this module and deals with actually preparing, utilizing, and evaluating the vocational plan. Even though these two modules cover thoroughly the planning process, they cannot tell you everything you may need to know about comprehensive vocational program planning. Therefore, they concentrate on the most essential points and make frequent reference to other documents where you can obtain further information.

Module Structure and Use

This module contains an introduction and five sequential learning experiences. OVERVIEWS, which precede each learning experience, contain the objective for that experience and a brief description of what the learning experience involves.

Objectives

Terminal Objective: While working in an actual administrative situation, determine vocational program and support service needs. Your performance will be assessed by your resource person using the "Administrator Performance Assessment Form," pp. 105-107 *(Learning Experience V)*.

Enabling Objectives:

1. After completing the required reading, demonstrate knowledge of the rationale and the procedures for vocational program planning *(Learning Experience I)*.

2. After completing the required reading, demonstrate knowledge of the procedures for assessing individual needs and interests in vocational planning *(Learning Experience II)*.

3. After completing the required reading, demonstrate knowledge of the procedures for assessing local manpower needs for use in planning vocational education programs *(Learning Experience III)*.

4. After completing the required reading, demonstrate knowledge of the procedures for determining the vocational programs and support services needed *(Learning Experience IV)*.

Resources

A list of the outside resources which supplement those contained within the modules follows. Check with your resource person (1) to determine the availability and the location of these resources, (2) to locate additional references specific to your situation, and (3) to get assistance in setting up activities with peers or observations of skilled administrators.

Learning Experience I

Optional

- *The Education Amendments of 1976* to the Vocational Education Act of 1963.

- Your state's current *State Plan for Vocational Education*.

- Your state's most recent *instructions and forms* for completing the annual application for vocational education funding.

- *1-5 peers* with whom you can meet to discuss vocational education program planning.

- *Vocational administrator* experienced in vocational program planning with whom you can discuss vocational education program planning.

Learning Experience II

Optional

- *A guidance counselor* with whom you can discuss the types of student needs and interests data being collected.

- *Standardized student vocational interest surveys* to review.

Learning Experience III

Optional

- *Local or state department of employment security and/or vocational division of the state department of education* to contact to determine available manpower needs information.

- *A vocational administrator* experienced in assessing manpower needs with whom you can meet.

Learning Experience IV

Optional

- *Comprehensive local vocational educational needs assessment planning documents* to review.

- *Reference:* Hamlin, Roger E., C. Robert Muth, and others. Planning for Vocational Education. East Lansing, MI: The Proaction Institute, 1977.

Learning Experience V

Required

- *An actual administrative situation* in which, as part of your duties, you can determine vocational program and support service needs.

- *A resource person* to assess your competency in determining vocational program and support service needs.

Selected Terms

Administrator -- refers to a member of the secondary or post-secondary administrative team. This generic term, except where specifically designated otherwise, refers to the community college president, vice-president, dean, director; or to the secondary school principal, director, superintendent.

Board -- refers to the secondary or post-secondary educational governing body. Except where otherwise specified, the term "board" is used to refer to a board of education and/or a board of trustees.

Resource Person -- refers to the professional educator who is directly responsible for guiding and helping you plan and carry out your professional development program.

School -- refers to a secondary or post-secondary educational agency. Except where otherwise specified, this generic term is used to refer synonomously to secondary schools, secondary vocational schools, area vocational schools, community colleges, post-secondary vocational and technical schools, and trade schools.

User's Guide

For information which is common to all modules, such as procedures for module use, organization of modules, and definitions of terms, you should refer to the following supporting document.

Guide to Using Competency-Based Vocational Education Administrator Materials. Columbus, OH: The Center for Vocational Education, The Ohio State University, 1977.

This module addresses task statement numbers 1, 2, 5, 16, 17, 27, 30, and 31 from Robert E. Norton, et al., The Identification and National Verification of Competencies Important to Secondary and Post-Secondary Administrators of Vocational Education. (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1977). The 166 task statements in this document which were verified as important, form the research base for The Center's competency-based administrator module development.

Learning Experience I

OVERVIEW

After completing the required reading, demonstrate knowledge of the rationale and the procedures for vocational program planning.

You will be reading the information sheet, "Vocational Education Program Planning," pp. 7-20.

You may wish to obtain and review the following references pertaining to vocational planning:

- the Education Amendments of 1976 to the Vocational Education Act of 1963
- your state's most recent State Plan for Vocational Education
- your state's most recent instructions and forms for completing the annual application for vocational education funding

You may wish to meet with peers to discuss the rationale and the procedures for vocational education program planning.

continued

You may wish to meet with a local vocational administrator experienced in vocational program planning to discuss procedures for vocational education program planning.

You will be demonstrating knowledge of the rationale and the procedures for vocational education program planning by completing the "Self-Check," pp. 23-24.

You will be evaluating your competency by comparing your completed "Self-Check" with the "Model Answers," pp. 25-27.

For information on the rationale for vocational program planning, the types of planning questions that should be addressed, and the types of data that need to be collected and analyzed, read the following information sheet.

VOCATIONAL EDUCATION PROGRAM PLANNING

It is often said that if you don't know where you want to go, any route will get you there, even though you probably won't know when you have arrived. Take the case of the airline pilot who announced to his passengers over the public-address system, "I've got some good news and some bad news. First the bad news: We're lost! Now for the good news: We're making very good time!"

Needless to say, the successful pilots of airliners and the captains of ships use maps and various tools to plan their routes so as to ensure their arrival at a predetermined destination quickly, safely, and as economically as possible. In a like manner, vocational education administrators at all levels must understand and utilize effectively the tools and techniques of educational program planning. Without effective planning, the predetermined legislative goal of providing "persons of all ages...vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training" is not likely to be achieved.[1]

One state director of vocational education describes the role of the local administrator in planning this way, "Perhaps the most important work that an administrator does is to plan for the future. If planning is well done, then the execution of the program can be accomplished with a minimum of problems. Probably what is more important is that the program will meet the needs that the administrator has perceived."[2]

The word "planning" means different things to different people, generally some positive (who can be against it) and some negative (who's got time for it). Planning may be defined simply as the intentional, rational process of devising a future course of action. Planning is nothing more than preparing for the

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[1]Public Law 94-482, U.S. Congress, October 12, 1976, Sec. 101.

[2]Local Educational Agency Vocational Education Program Planning Guide. (Charleston, WV: Bureau of Vocational, Technical, and Adult Education, undated), p. 1.

future, whatever form that preparation takes. All individuals who survive for any length of time do it. The real question is how well do we plan.

In education, a plan is a projection of what needs to be accomplished in order to reach valid educational goals. The plan becomes a "map" of action for guiding our efforts and our money toward relevant success. The allocation of our always limited educational resources to achieve desirable goals necessitates a logical, data-based, and systematic planning effort. In his book on Educational System Planning, Roger Kaufman (1972) makes the point well when he says: "Planning, and the commitment to planning before taking action, can prevent us educators from putting the cart before the horse by deciding how we are going to do something before we know what should be done."[3]

Campbell and Gregg (1957) state:

> The importance of planning in all kinds of organizational effort is commonly recognized. Without planning there can be little intelligent direction or activity. The activity will be largely meaningless and ineffectual. It is through planning that purposes are established and that coordinated means for accomplishing the purposes are developed. Planning is an essential component of the administrative process.[4]

Educational planning then, is a rational and purposeful process in which one engages to achieve some desirable education goals. It is a systematic process which, when properly carried out, can help vocational administrators organize and coordinate their efforts to decide what should be done, and how it can be done most effectively and efficiently.

Legislative Requirements for Planning in Vocational Education

Vocational education is that portion of secondary, post-secondary, and adult education which is designed to prepare students with the skills, knowledge, and attitudes necessary to enter and advance in the world of gainful employment. Planning for vocational education is the art of preparing now to provide the necessary and relevant training experiences that will be needed by tomorrow's students. Planning now is an essential

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[3]Roger A. Kaufman, Educational System Planning. (Englewood Cliffs, NY: Prentice-Hall, Inc.), p. 6.

[4]Roald F. Campbell and Russell T. Gregg, Administrative Behavior in Education. (New York, NY: Harper and Row, 1957), p. 281.

prerequisite to the effective and efficient operation and management of future vocational programs.

It is not only logical to carefully plan vocational education programs but planning is required by law at the national, state, and local levels by the Education Amendments of 1976 (P.L. 94-482). These amendments to the Vocational Education Act of 1963 state in part:

> EDUCATION AMENDMENTS OF 1976
> Sec. 106 states "that funds will be distributed to eligible recipients (local educational agencies) on the basis of annual applications which--
> (a) have been developed in consultation (1) with representatives of the educational and training resources available in the area to be served by the applicant and (2) with the local advisory council required to be established by this Act to assist such recipients,
> (b) describe the vocational education needs of potential students in the area or community served by the applicants and indicate how, and to what extent, the program proposed in the application will meet such needs...
> Sec. 107 of the Act states that each state desiring to receive funds must submit a five year State Plan to the U.S. Commissioner of Education in 1977 and each fifth fiscal year thereafter. And Sec. 108 of the law says that "any state desiring to receive funds under this Act shall submit to the Commissioner an annual program plan and accountability report..."

It is clear that local applications for federal funds for vocational education will need to meet at least four basic criteria:

- be developed in consultation with representatives of local education and training agencies
- be developed in consultation with a local vocational education advisory council
- describe the needs of potential students in the area or community
- explain how the proposed programs will meet these needs

Role of the Local Administrator and Other Personnel

The role of the local administrator in the vocational education program planning process can perhaps best be explained by citing portions of a 1977 memorandum sent by Mr. Walter Ulrich, State Director of Vocational Education in Utah, to "Presidents of Post-Secondary Institutions; District Superintendents of Secondary Schools; High School Principals; and Local Directors of Vocational Education." The subject was "Instructions for Preparing a Local Plan for Vocational Education."

> Enclosed is a copy of "Instructions for Preparing a Plan for Vocational Education." As has been the case in prior years, a "Plan" will be a prerequisite for all schools, districts, institutions or other local education agencies that anticipate requesting federal financial assistance under the provisions of the Vocational Education Amendments of 1976 (P.L. 94-482).
>
> The information required this year is similar to previous years, although the approach has been modified as follows:
>
> The Plan for Vocational Education shall be:
>
> - designed for five-year use (1977-1982) with annual updating of goals and objectives
> - designed as a basis for planning and be utilized as a management tool
> - designed as a basis for educational accountability or evaluation of the vocational education system
> - approved by the local board of education

Explanatory materials sent along with the memo indicated that the goal of the State Department through the planning required is to promote and assist with the development of quality occupational education programs at the local level. To guide local level planners in reaching the "quality programs" goal, the following first and second priority goals for vocational education in Utah were established:

A. First Priority Goals

1. Compliance with the Vocational Education Amendments of 1976 (P.L. 94-482).
2. Occupational programs offered should be realistic in terms of current and projected manpower needs.
3. The needs of all students (including target populations) desiring vocational training should be adequately met by occupational programs.

4. The total education of students desiring occupational training should be an articulated effort from secondary, post-secondary through adult education.
5. Adequate ancillary services (guidance, placement, follow-up student organizations, etc.) should be provided by local programs for vocational education.
6. Vocational education should adequately equip students with job entry skills required to enter the world of work.

B. Second Priority Goals

7. Program planning should be adequate enough to ensure that vocational-occupational programs are appropriate.
8. Adequate facilities should be available for the vocational-occupational programs being offered.
9. Staff qualification should be appropriate for vocational-occupational areas taught.
10. Community resources should be utilized in planning and implementing local programs of vocational-occupational education.

This memo is not unlike those received annually by all local administrators of vocational education. While the specific procedures and forms to be used vary somewhat from state to state, the requirement for comprehensive planning is common to all.

The development of a comprehensive local plan for vocational education requires considerable data collection and analysis as a basis for making sound program planning decisions. Local administrators annually are faced with numerous key questions or decisions when in the process of developing the local plan. Among these are:

- What are the students' needs and interests with regard to vocational education?
- What are the area and community manpower and labor market needs?
- What existing programs should be modified or eliminated?
- What new programs, if any, should be offered?
- What students and/or groups of students should be served by the vocational programs?
- What supportive or ancillary services need to be provided?
- How will these programs and services be financed?

One of the keys to developing a sound local plan for vocational education is to involve responsible and concerned persons in the process. The principle of involving those persons in the planning process who will be affected by the program outcomes and who will be responsible for implementing the plans conceived, should be strongly adhered to. While the local boards of trustees and boards of education are legally responsible for the operation of the schools, it should be expected that board members will instruct the president, superintendent, director, or other appropriate official to take responsibility for the development of these plans. This planning cannot be legally nor effectively done by one person or group alone. Success depends upon involving the appropriate persons at the right times in the process.

The legislative requirement and past experience suggests that a minimum of two committees should be appointed or assigned to help the local administrator in the development of the local plan. One committee might be identified as a staff planning committee and the other would be the existing or a newly appointed local vocational education advisory council.

The staff planning committee would be composed mostly or entirely of educators. The members would include the dean or director of instruction, department chairpersons and/or vocational teachers representing the various occupational areas, vocational guidance counselors, program supervisors, and other educators, both general and vocational, as appropriate. In addition to the regular members of the staff planning committee, other members of the college or school staff should be called upon to provide inputs as needed. The functions of this committee are to gather, review, and synthesize data on manpower and student needs, to seek and provide consultative services as needed, and to coordinate the various aspects of plan development including the development of priorities and the completion of all required forms.

The second committee that should be actively involved in the local plan development and review process is the local vocational education advisory council. For the first time in vocational education legislation, the Education Amendments of 1976 explicitly state that:

> EDUCATION AMENDMENTS OF 1976
> ...Each eligible recipient receiving assistance under this Act to operate vocational education programs shall establish a local advisory council to provide such agency with advice on current job needs and on the relevancy of courses being offered by such agency in meeting such needs.
>
> Section 105 (g)(1)
> Public Law 94-482

As cited earlier, Sec. 106 of the law states specifically that the annual application must be developed in consultation with this local advisory council. Membership on this council is to include members of the general public, including representatives of business, industry, and labor. Interested parents and students, representatives of local employment agencies, the chamber of commerce, and other concerned community organizations and agencies should also be considered as council members. Normally these councils are expected to represent the total vocational education program as opposed to the more specific advisory committee, which usually represents one occupational program or vocational service area. This council should advise the staff planning committee, the administration, and the local board on such matters as the local employment situation, student needs and interests, program and support service priorities, and the vocational education needs of the community. This broadly based council can provide a more balanced view of overall program needs than can committees representing specific occupational areas. The council, however, should seek and utilize input concerned with program needs, relevance, etc., from the various occupational committees. This council, if appropriately involved in the planning process, can do much to provide community support for the plan that is developed. This support often becomes a very critical need, especially when the plan calls for additional financial support in the way of a new tax levy or bond issue.[5]

The cooperative efforts of these committees and the local administrator should result in a comprehensive, realistic, and defensible plan for vocational education for the community. The plan should be submitted to the president or superintendent for his review and/or board approval, before it is forwarded to the state or regional vocational education office.

A Vocational Education Program Planning Model

By now it should be apparent that the local vocational program planning process is a very important, complex, and involved process that must be conducted annually. Effective planning entails the development and use of a continuous source of student data, manpower data, and evaluation data on which important program planning decisions can be based.

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[5]For more information on local advisory councils, you may wish to refer to The Center's administrator module entitled, Organize and Work with a Local Vocational Education Advisory Council. (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1977).

The educational planning process can be and has been outlined in many different ways.[6] Any comprehensive planning process, however, may be described basically as a problem solving approach. In vocational education, comprehensive planning involves the use of a logical and systematic procedure to answer planning questions such as: What are the student and manpower needs of our community or area? What programs and services should our college or school provide to meet these needs? How will we monitor the process and know whether we are achiving our goals? The result of a well conducted comprehensive planning process should be the design, implementation, and evaluation of vocational education programs that meet the identified needs and goals.

A suggested comprehensive Vocational Education Program Planning Model is presented in Figure 1. An overview of each of the general steps depicted follows. The planning model presented, whether followed in whole or only in part, can help give you direction for organizing and conducting a planning effort that will serve to improve and strengthen your local vocational education program.[7]

An Overview

This section provides only a general explanation of the suggested steps in the vocational planning process, and their interrelationships.

Step 1 - Analyze the General Education Goals and Community Planning Base.--A vocational education program obviously cannot and should not operate in isolation from the community or area which it is intended to serve, nor should it operate apart from the total educational system of which vocational education is generally a subsystem. This important step in the vocational planning process therefore involves carefully reviewing the educational philosophy and goals of the overall educational system, and analyzing the values, expectations, and resources of the community for their implications for vocational programs.

Step 2 - Assess Individual Needs and Interests.--This step in the planning model is concerned primarily with determining the vocational training needs and interests of present and

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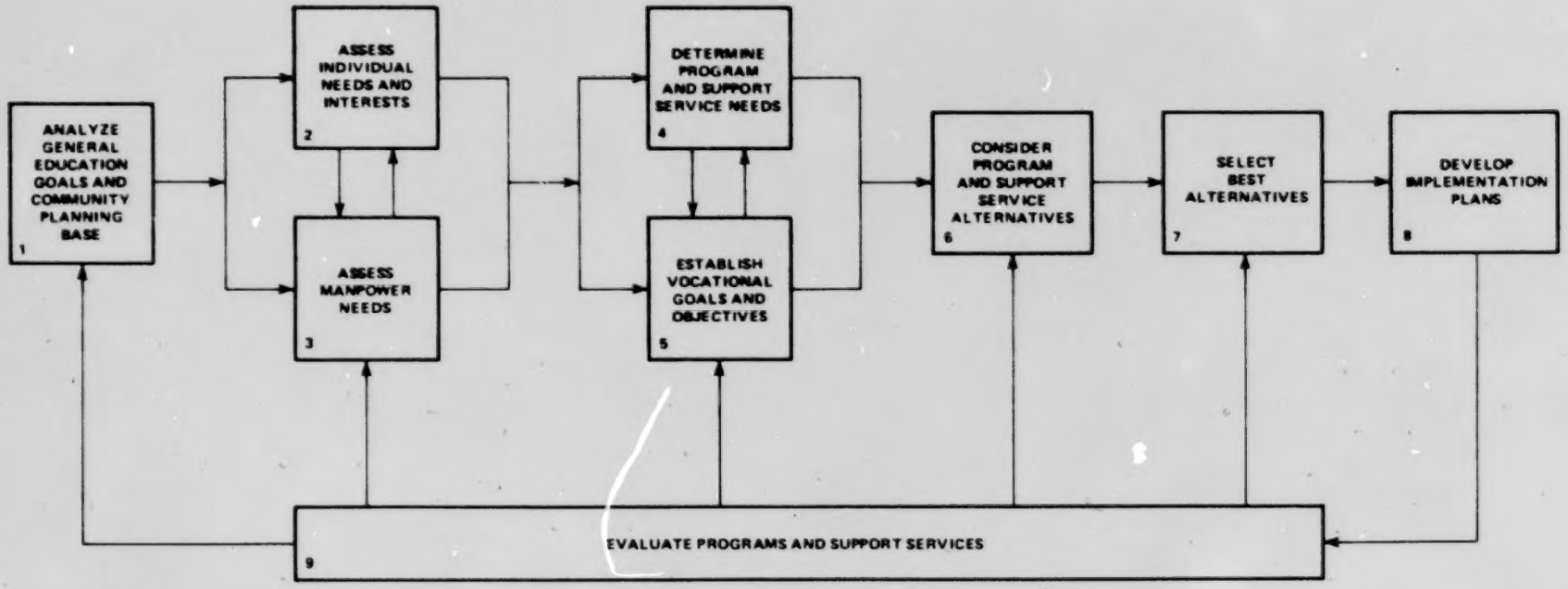
[6]See, for example, Needs Assessment in Education, No. 3 in a Series of Handbooks on Comprehensive Planning for Local Education Districts. (Trenton, NJ: Department of Education, 1974).

[7]For information on a systems model for planning statewide programs of vocational education, you may wish to read Jim W. Attebery et al., Improving Vocational Education Planning: More Myth than Reality? (Columbia, MO: University of Missouri, 1977).

FIGURE 1

VOCATIONAL EDUCATION PROGRAM PLANNING MODEL



prospective students. In most institutions, this assessment will also include determining the training interests and needs of adults in the area served by the college or school district. At the secondary level, parental preferences are also commonly surveyed.

Step 3 - Assess Manpower Needs.--This step involves making a careful determination of the present and likely future manpower supply and demand situation. A variety of techniques are commonly used at this stage of the planning cycle to assess current job openings, projected job openings, workforce mobility, and the economic outlook for the area in order to determine the number and kind of employment opportunities that will be available for program graduates. The various sources of manpower supply are also studied.

Step 4 - Determine Program and Support Service Needs.--This step in the planning cycle is concerned with analyzing the data available or collected on individual needs and manpower needs in order to determine what changes, if any, are needed in the existing vocational programs, and to ascertain what new programs or support services, if any, are needed.

Step 5 - Establish Vocational Goals/Objectives.--Once the individual needs and manpower needs have been clearly established and program and support service changes or needs have been determined, appropriate goals and/or objectives should be established at this point in the process. These goals and objectives should help make clear the specific intent of the new or modified programs and/or support services to be provided.

Step 6 - Consider Program and Support Service Alternatives.--This step involves the generation of as many alternative methods of achieving the established vocational goals as possible. These alternative methods need to be analyzed in terms of their cost, political feasibility, and likely effectiveness in meeting the identified student and manpower needs.

Step 7 - Select the Best Alternatives.--This is basically a decision-making step in which the appropriate persons (advisory council members, staff planning committee, administrators) consider all of the available data regarding the alternatives proposed in the previous step, and recommend and/or select the best ones. At this stage of the process, the resources available and other criteria that will permit the adequate justification of the decisions made must be carefully weighed.

Step 8 - Develop Implementation Plans.--Once the best alternatives have been selected, a plan for making the desired programs and support services operational, including time schedules, staffing requirements, management procedures, program budgets, and the designation of persons who will be responsible for each activity, should be developed. At this stage of the

planning process, the staff planning committee and administration will normally prepare and submit the proposed plan to the board of trustees or the board of education, and upon approval, to the state department of education.

Step 9 - Evaluate Programs and Services.--Another important and essential component of any comprehensive vocational planning process involves plans for conducting both formative and summative evaluation of the programs and services provided. This type of evaluation, which can take many forms, is necessary so as to obtain useful feedback for program improvement purposes and to collect appropriate data for local, state, and federal program accountability purposes.

Recycle.--Although recycling is not specifically shown on the diagram of the model, most local administrators will find it necessary to repeat most, if not all, of these planning steps each year. In our rapidly changing technological society, needs must frequently be reassessed and program goals and objectives redefined to reflect new conditions and new priorities.

STEP 1 – ANALYZE THE GENERAL EDUCATION GOALS AND COMMUNITY PLANNING BASE

A logical first step in the comprehensive program planning process for local vocational education programs is to analyze the context within which the programs must operate. The two main organizations of concern in making this analysis are the community in which the program will operate and the school or college of which the vocational programs will, in most cases, be a subcomponent.

Major factors to consider in carrying out this step of the vocational education planning process include:

- existing general education goals and philosophy
- legal requirements
- community values, preferences, and expectations
- school and community financial status

Existing General Education Goals and Philosophy

Since in nearly all cases the local vocational education program exists within the context of the larger total educational system, it is only logical that the existing general education goals and philosophy of the school district or college be analyzed for their implications for vocational education. In most,

but not all cases, these statements of goals and/or philosophy will have direct and indirect references to the role that vocational education should play in achieving the educational goals of the district. (The following are actual goal statements taken from more complete lists of goals for the total school, which have direct implications for the type of vocational programs that should operate within the schools.)

Students who graduate from school X should:

a. be able to make career decisions
b. know about academic and vocational opportunities
c. be able to earn a living
d. be able to enter a vocation or college
e. have confidence in their own ability

Students who graduate from school Y shall:

a. have respect for the dignity of all occupations and the desire to pursue a satisfying vocation
b. have acquired a knowledge and understanding of opportunities open to them for preparing for a productive life
c. have developed those occupational competencies consistent with their interests, aptitudes, and abilities which are prerequisite to entry and advancement in the economic system and/or academic preparation programs

In planning the vocational programs, the staff planning committee and advisory council members should be made aware of and keep the context of the school's relevant goals in mind. On occasion, these members may even want to recommend that changes be made in the statement of overall school goals, so that they may more accurately reflect the vocational needs of the school's students.

Legal Requirements

Another important factor to analyze in Step 1 is the legal requirements, both state and federal, which impinge on what legally can be done by the school system or community college. For example, if the school wants to be eligible for federal funds to help defray the costs of vocational education, it must:

- submit an annual local plan and application
- establish and use a local advisory council
- coordinate vocational education programs with manpower training programs conducted in the area
- conduct job placement and follow-up activities

- consult with representatives of other private and public educational and training resources available in the area

- describe the relationship between the proposed programs and other programs in the area supported by state and local funds

Every state also has laws and/or regulations which are generally spelled out in the state's annual and five year vocational plan. Schools wanting to obtain federal and state funds must comply with these requirements, which include the following:

- program enrollment standards (minimum and maximum class size)

- instructional standards (minimum number and length of class periods)

- facility requirements

- teacher certification requirements

- administrative reports (enrollment, follow-up, etc.)

While a great deal of flexibility in planning local programs does exist, certain legal requirements or guidelines are established by each state in order to ensure that the state and federal funds appropriated are used as intended--for training for gainful employment in occupations requiring less than a baccalaureate degree for entry-level employment.

Community Values, Preferences, and Expectations

When analyzing the community planning base, it is also necessary to keep in mind the predominant values and expectations of the community. Parental preferences, while generally closely aligned with student interests, must be given due consideration. A community whose expectations are that 90 percent of its high school graduates will go on to four years of college, will not likely be strong supporters of a comprehensive vocational education program designed to handle 60 percent of the community's students. An assessment of the economic and social class structure of the community will help provide the insights needed here. Of course, members of both the staff planning committee and the local advisory council who live and work in the community will already have a considerable understanding of the community's values and expectations. The response of citizens to school activities and to past school bond issues and levies will also provide clues about the community's wishes.

School and Community Financial Status

Related but different from the community's values and expectations factor, is the school's and the community's financial status. The general economic climate of the community and the financial status of the school or college itself, should be considered before new programs or the expansion of current programs is considered. While state and federal funds will pay a portion of the cost of needed programs, the local area or community also has to pay part of the cost. Communities with a healthy economic climate and a good tax base are likely to be able to support new and/or expanded vocational programs, if the need exists. Schools who are in financial straits, regardless of the reason(s), are seldom in a position to add or expand anything, even with federal and state financial support.

Other financial considerations of which local planners must be aware include the necessity of maintaining local financial effort, proper fiscal control, and accurate accounting procedures. They must also be aware of the federal regulation which requires states to base reimbursement on a formula that takes into account the local educational agency's ability to pay. Federal funds must be used to supplement and not supplant state and local funds, hence the need to maintain the local level of financial support. Adequate fiscal control and fund accounting procedures must be established to ensure the proper disbursement of, and accounting for, federal funds paid to the state. The states cannot allocate funds among eligible recipients on a basis of per capita enrollment or through the matching of local funds on a uniform percentage basis. Nor can states deny funds to any eligible recipient which is making a reasonable tax effort solely because they are unable to pay the non-federal share of the cost of new programs.

A number of factors must be considered when completing the first step of the vocational planning process. The analysis of the school's general education goals and the community planning base can provide the contextual framework for the other important steps of the planning process which will be explained in later information sheets.

You may wish to obtain and review the following references pertaining to vocational education to identify important information you will need when developing plans for your vocational education program.

- the Education Amendments of 1976 to the Vocational Education Act of 1963
- your state's most recent State Plan for Vocational Education
- your state's most recent instructions and forms for completing the annual application for vocational education funding

You may wish to meet with 1-5 peers who are also taking this module to discuss the rationale and procedures for vocational program planning.

You may wish to arrange through your resource person to meet with a local vocational administrator experienced in vocational program planning. During this meeting you may wish to review his or her vocational program plans, and to discuss procedures he or she uses to plan for vocational education.

The following items check your comprehension of the material in the information sheet, "Vocational Education Program Planning," pp. 7-20. Each of the five items requires a short essay-type response. Please explain fully, but briefly, and make sure you respond to all parts of each item.

SELF-CHECK

1. Why is comprehensive vocational education program planning necessary?

2. Who should be involved in the vocational education program planning process?

3. What are the major questions which the vocational program planning effort should address?

4. Describe the two major types of data that should be collected and assessed in the process of determining the vocational programs to be offered. Why is each type of data important?

5. Explain why the first step in a comprehensive vocational education planning process should involve analyzing the general education goals of the school or college, and the community planning base.

Compare your completed responses to the "Self-Check" with the "Model Answers" given below. Your responses need not duplicate the model responses; however, you should have covered the same major points.

MODEL ANSWERS

1. Comprehensive vocational education program planning is necessary if the needs of individuals (secondary, post-secondary, and adult students) and the manpower needs of the community or area are to be assessed, and the most effective and efficient vocational education programs for meeting those needs are to be developed. Relevant and effective vocational programs don't just happen, they are based on real needs and are carefully planned and managed by competent local administrators. Sound and effective decision-making requires relevant and accurate data on which to base vocational program planning decisions. In addition to those logical and rational reasons for planning, the Education Amendments of 1976 stipulate that careful planning involving appropriate members of the local community must go into the development of annual applications for federal funding assistance.

2. In developing the local plan for vocational education, the principle of involving those who are affected by the program and those who must implement the plans developed, is most important. In addition to the local vocational education administrator(s), a staff planning committee consisting of vocational teachers, counselors, department or program chairpersons, and appropriate representatives of general education, should be appointed and utilized in the planning process. A second group, the local vocational advisory council, must also actively participate in the planning process. Membership on the council should include parents, students, members of the general public, and representatives of community organizations, business, industry, and labor.

3. Some of the major questions which the local vocational education planning effort should address are:

   - What are the vocational education needs and interests of students?
   - What are the present and future employment opportunities of the community and/or area?
   - What existing vocational programs need to be modified, expanded, or eliminated?

- What new programs of vocational education, if any, should be offered?
- What supportive or ancillary services need to be provided?
- What students and/or groups of students should be served?
- How will the needed programs and services be financed?

4. The two major types of data needed in any vocational program planning effort are data on student needs, interests, and abilities; and data on manpower needs or employment opportunities.

   Student needs data is extremely important because logic as well as present federal legislation requires that the vocational education programs and supportive services be designed to meet the actual needs, interests, and abilities of students to benefit from such training. Administrators who plan programs without considering student needs and interests, may end up with programs and teachers but no or very few students enrolled.

   Manpower needs data is also extremely important if we, in vocational education, are to avoid preparing students for jobs that don't or won't exist. The legislation is very specific about the fact that the training to be offered is to be "realistic in light of actual or anticipated opportunities for gainful employment." If the students graduating from vocational programs cannot obtain employment in the areas for which they were trained, or in related areas in a reasonable amount of time, then those vocational programs are not meeting the needs of students or employers.

5. An analysis of the school's or college's general education goals and the community planning base is important for several reasons. The vocational education program in most cases is a subsystem within the overall educational program. Logically, the subsystem must contribute to meeting the goals of the larger unit if it is to be effective. An analysis of the general education goals should help to provide an understanding of the contextual framework within which the vocational program must operate.

   In a similar manner, studying the community planning base, which involves considering the legal requirements under which the programs must operate, the community's values, educational preferences, expectations, and financial conditions, will provide the background information necessary for effective program planning. Without this type of background knowledge and understanding about the community's values and

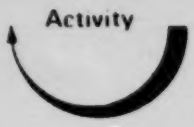
expectations, the local administrator is not likely to be able to do realistic planning that will be accepted and supported by other members of the educational system and the community.

LEVEL OF PERFORMANCE: Your completed "Self-Check" should have covered the same major points as the model responses. If you missed some points or have questions about any other points you made, review the material in the information sheet, "Vocational Education Program Planning," pp. 7-20, or check with your resource person if necessary.

Learning Experience II

OVERVIEW

After completing the required reading, demonstrate knowledge of the procedures for assessing individual needs and interests in vocational planning.



You will be reading the information sheet, "Assessing Individual Needs and Interests," pp. 31-40.

You may wish to meet with a guidance counselor to determine what student needs and interests data is currently being routinely collected and analyzed.

You may wish to review copies of various standardized student vocational interest surveys.

You will be demonstrating knowledge of procedures for assessing individual needs and interests by completing the "Self-Check," pp. 43-44.

You will be evaluating you competency by comparing your completed "Self-Check" with the "Model Answers," pp. 45-46.

For information on the importance of, and the procedures for, assessing individual needs and interests, read the following information sheet.

ASSESSING INDIVIDUAL NEEDS AND INTERESTS

A logical systematic planning process is the backbone of effective vocational programs which meet identified needs and goals. A suggested comprehensive Vocational Education Program Planning Model, consisting of nine steps, was presented in Learning Experience I. The first step presented in the planning model stressed the need to analyze the existing general education goals and the community planning base for their implications for vocational education. A discussion of Step 2 follows.

Major factors to consider in Step 2, "Assess Individual Needs and Interests" of the vocational education program planning process include:

- student vocational and educational interests
- student needs
- student abilities
- parent preferences and adult training interests

When planning for the nature and number of vocational programs to be offered, there is often considerable debate as to whether labor market considerations or the interests and needs of students should be the governing factor. The Education Amendments of 1976 are as emphatic regarding the needs and interests of individuals as they are in emphasizing the manpower needs of business and industry. The Declaration of Purpose states in part that the vocational programs offered must be "...suited to their (the students) needs, interests, and ability to benefit..." from the training offered. Programs that are established on the basis of occupational opportunities alone, could potentially end up with no or very few students enrolled.

Although the exact balance to be struck between student and manpower needs is an important decision point that the vocational program planner must come to grips with, clearly both variables need to be taken into account. The amount of weight that can be given to student program interests can be increased when one also includes an analysis of student needs. Interest scores are also more likely to be realistic when students have had an opportunity through career education or vocational orientation courses to

study and explore the various career clusters. It is very important to learn as much as possible about your prospective students so that the programs and support services offered can be made relevant to their present level of career development. Knowledge of students' aspirations, plans, and expectations permit the vocational planners to tailor the offerings to real needs and interests.

There are numerous methods and techniques which can be used to help assess individual needs and interests. The remainder of this information sheet will deal with some of the most effective techniques for (a) assessing student vocational and educational interests, (b) identifying student needs, (c) analyzing student abilities, and (d) assessing parent preferences and adult training interests.

Student Vocational and Educational Interests

Students' interests may be thought of as personal preferences for certain types of schooling and for specific occupational or career areas. Both vocational and educational interests are generally flexible at the junior high level and gradually become more specific and fixed as persons become older. Students' occupational interests should be considered tentative until students have had a chance to learn firsthand about a variety of occupational areas and to explore those areas which are of interest to them. Because both vocational and educational interests are subject to change, it is strongly recommended that a systematic data collection procedure be established whereby some student interest information is gathered each year. Many schools survey all students' vocational interests every second year from junior high through high school.

Two major techniques are available for the identification of student interests. They involve the use of standardized vocational interest surveys such as the Kuder Form DD Occupational Interest Survey and the Ohio Vocational Interest Survey (OVIS) or the use of locally developed vocational program interest surveys. In many school systems, the guidance department is already administering one or more standardized surveys on a periodic basis to provide useful information for individual student counseling. In schools where most students enroll in a career orientation and/or career exploration course, the guidance or vocational department may have individual folders on these students which contain information about their expressed occupational interests. Before any new surveys are planned or conducted, the local administrator should check with the guidance department to determine what student educational and occupational interest data is already available.

Regardless of the student survey instrument selected or developed, it should contain items that will give the school district or college the following information on the students:

- educational objectives
- vocational or career objectives
- vocational program interests
- occupational information and/or counseling needs

The Ohio Vocational Interest Survey, which is being widely used by many school districts, combines an interest inventory with a student information questionnaire. The "tested" interest section of the survey contains 280 job activity items (e.g., pick fruits and vegetables, design window displays for a department store) to which students respond in terms of "Like very much," "Like," "Neither like nor dislike," "Dislike," and "Dislike very much." The questionnaire section of OVIS gathers background information about the student's "expressed" vocational plans, subject area preferences, high school program plans, post-high school education plans, and vocational course interests. In addition to these standard questions, the booklet provides space for up to eight questions which the school district can ask, if desired, about locally relevant issues.

Student responses to OVIS are machine scored and result in two copies of a student report folder for each student, and if desired, a summary report. The summary report (see Sample 1, for an example) presents the numbers and percents of students choosing each of the options on the questionnaire. These summaries, available on both a building and system-wide basis, provide information which can be very useful in educational and curricular planning and vocational counseling.

The Kuder Form DD provides measurement of interests in 114 specific occupational areas and in 48 college majors. This Science Research Associates interest survey is designed for administration to 11th and 12th graders, college students, and adults. Responses may be either manually or machine scored and individual as well as school system reports are available.

A sample of a "Student Survey for Vocational Education Planning" instrument, which can be locally reproduced, is contained in a 1977 guide to local administrators in Arkansas (see Sample 2). This instrument may be added to, modified, or adapted for local use. The simplest student survey would do no more than list potential vocational programs and ask students to check those in which they plan to enroll when they reach the appropriate grade. Such surveys may be administered to students in

SAMPLE 1

VIS SUMMARY REPORT

STUDENT INFORMATION QUESTIONNAIRE

SCHOOL SYSTEM: JACKSON CITY GRADE: 9 SEX: MALE-FEMALE

BUILDING: ANDERSON JR. H.S. 00-0020

1. OCCUPATIONAL PLANS

	First Choice Number	%	Second Choice Number	%
1. Manual Work	5	0	18	1
2. Machine Work	27	2	31	3
3. Personal Service	59	5	70	6
4. Care People-Anim.	70	6	54	4
5. Clerical Work	88	7	92	7
6. Inspect-Testing	2	0	5	0
7. Crafts	99	8	126	10
8. Customer Service	23	2	61	5
9. Nursing	95	8	41	3
10. Skilled Per. Serv.	17	1	27	2
11. Training	21	2	49	4
12. Literary	17	1	34	3
13. Numerical	19	2	31	3
14. Appraisal	3	0	13	1
15. Agriculture	60	5	35	3
16. Applied Tech	130	10	75	6
17. Promotion-Comm.	76	6	91	7
18. Management	24	2	41	3
19. Artistic	93	8	60	5
20. Sales Represent.	9	1	26	2
21. Music	65	5	51	4
22. Entertainment	35	3	42	3
23. Tech-Com.-Sec. S.	116	9	102	8
24. Medical	82	7	56	5
OMITS	5	0	9	1
TOTALS	1240		1240	

2. BEST LIKED SUBJECTS

	First Choice Number	%	Second Choice Number	%
1. Mathematics	298	24	208	17
2. English	257	21	246	20
3. Social Studies	166	13	193	16
4. Science	193	16	174	14
5. Foreign Lang.	39	3	89	7
6. Music	121	10	136	11
7. Art	162	13	186	15
OMITS	4	0	8	1
TOTALS	1240		1240	

3. HIGH SCHOOL PROGRAM

	Number	%
1. College Preparatory	553	45
2. Business-Commercial	162	13
3. Vocational-Technical	167	13
4. General	212	17
5. Other	138	11
OMITS	8	1
TOTAL	1240	

4. POST-HIGH SCHOOL PLANS

	Number	%
1. Voc.-Tech. School	53	4
2. Business School	80	6
3. Nursing School	63	5
4. Junior College, etc.	366	30
5. College - University	398	32
6. Military	87	7
7. Apprenticeship	38	3
8. None	23	2
9. Undecided	148	12
OMITS	4	0
TOTAL	1240	

5. INTEREST IN VOCATIONAL PROGRAM

	Number	%
1. Already Enrolled	79	6
2. Interested	823	66
3. Not Interested	334	27
OMITS	4	0
TOTAL	1240	

6. VOCATIONAL PROGRAM

CHOICE	First Choice Number	%	Second Choice Number	%
1. Gen. Agriculture	40	3	30	2
2. Forestry, etc.	20	2	25	2
3. Office Practices	57	5	38	3
4. Secretarial	101	8	66	5
5. Data Processing	34	3	34	3
6. Bookkeeping	32	3	55	4
7. Distributive Ed.	20	2	13	1
8. Food Services, etc.	8	1	12	1
9. Practical Nursing	84	7	66	5
10. Dental Asst., etc.	48	4	42	3
11. Home Economics	26	2	24	2
12. Auto Body Repair	45	4	58	5
13. Mechanics	71	6	60	5
14. Building Trades	24	2	14	1
15. Printing, etc.	3	0	9	1
16. Commercial Art	70	6	45	4
17. Cosmetology	30	2	33	3
18. Drafting	43	3	39	3
19. Machine Shop	24	2	43	3
20. Sheet Metal, etc.	16	1	15	1
21. Electronics	57	5	45	4
22. Appliance Repair	4	0	14	1
23. Tailoring, etc.	11	1	21	2
24. Undecided	22	2	85	7
OMITS	350	28	354	29
TOTALS	1240		1240	

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STUDENT SURVEY[8] FOR VOCATIONAL EDUCATION PLANNING

The _____ School District is conducting this survey to help determine how student needs can better be met through programs of vocational education. We would appreciate your cooperation in completing this survey form.

1. Grade (circle one): 7 8 9 10 11 12
2. Sex: ☐ Male ☐ Female
3. Race: ☐ White ☐ Non-white
4. Are you enrolled in a vocational course this year? ☐ yes ☐ no
5. Do you plan to enroll in a vocational course before high school graduation?
   ☐ yes ☐ no ☐ unsure
6. Do you feel the selection of vocational courses are adequate? ☐ yes ☐ no
   If no, what other programs or courses do you feel should be offered? (Please list)
   _____
   _____
   _____
7. What do you plan to do as a career after you complete your education?
   _____
8. Parent's educational background

Mother	Father		
☐	☐	(1)	Not a high school graduate
☐	☐	(2)	Graduated from high school
☐	☐	(3)	Business school or trade school
☐	☐	(4)	Some college
☐	☐	(5)	College graduate
☐	☐	(6)	Do not know how much education

9. What do you plan to do on a full-time basis during the first year after you finish high school?
   ☐ (1) Work on a full-time job
   ☐ (2) Get married
   ☐ (3) Enter military service
   ☐ (4) Attend college
   ☐ (5) Enroll in business school, trade school, nursing training, etc.
   ☐ (6) Other (please specify)_____
10. What do you think your parents expect you to do after you finish high school?
    ☐ (1) Get a job
    ☐ (2) Get married
    ☐ (3) Enter military service
    ☐ (4) Attend college
    ☐ (5) Enroll in business school, trade school, nursing training, etc.
    ☐ (6) They do not care one way or the other
11. Have you had a part-time job during the summers or after school?
    ☐ yes ☐ no
12. How much help have the following persons given you in planning your future career? Check one box only for each person listed.

	A great deal	Some	Very little	None
Parents	☐	☐	☐	☐
Teachers	☐	☐	☐	☐
Counselors	☐	☐	☐	☐
Friends	☐	☐	☐	☐
Other (Specify_____)	☐	☐	☐	☐

13. Do you feel you need more vocational information or counseling to help you make better vocational plans?
    ☐ yes ☐ no
14. After you finish high school, do you
    ☐ (1) Prefer to remain in the local area
    ☐ (2) Want to move to another part of the state
    ☐ (3) Want to leave the state
    ☐ (4) Don't know
15. Below are a list of vocational programs and courses. After reading through all courses, check three courses that you believe represent areas of training that would help you in achieving your career objective. Indicate your first choice with 1, second choice with 2, and third choice with 3. If you have questions, ask your teacher for help.

    ☐ Agriculture
    ☐ Farm Machinery, Mechanics
    ☐ Horticulture, Landscaper
    ☐ Business and Office
    ☐ Homemaker
    ☐ Construction Trades
    ☐ Electronics, Electrician
    ☐ Welding
    ☐ Cosmetology
    ☐ Drafting
    ☐ Data Processing
    ☐ Food Service
    ☐ Child Care Services
    ☐ Clothing and Textiles
    ☐ Health Occupations
    ☐ Hospitality and Recreation
    ☐ Marketing and Distribution
    ☐ Advertising
    ☐ Automechanics
    ☐ Radio and TV Repair
    ☐ Salesperson

NOTE: The local school district should include vocational programs and courses that best represent the local and area labor market needs. Additional space should be provided to enable students to write in courses that have not been listed.

[8]Taken from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 13.

grades 8 through 10. When administering and interpreting vocational interest surveys, remember the following:

(1) List not only programs which you now offer, but a wide range of other possible programs as well.

(2) Arrange vocational programs on the survey in hierarchical fashion with smaller more specialized program categories nested within broader categories. In this way, if not enough interest is registered in a specialized category, a broader less specialized program could be offered.

(3) To make the student interest survey as accurate and useful a tool as possible, administer it using the same forms and procedures each year. Continuity will allow one to calculate the average difference between the expressed interest and actual enrollment as illustrated below.

VOCATIONAL PROGRAM ENROLLMENT PROJECTION

Grade 11

Program	Number of Students Expressing an Interest	Average Discrepancy Rates	Future Enrollment Projection
1	45	+.10	50
2	50	-.02	49
3	25	-.20	20
4	100	-.50	50
5	10	-.10	9

Remember that an attrition factor will exist in all cases, and that that attrition may be large depending on how the interest survey is administered. This means that total future vocational enrollment will probably, for a number of reasons, be less than that expressed on the interest survey, and among those who do enroll, interest will shift some from one area to another. If the discrepancies which result from the survey of eighth graders are too great to make the survey meaningful, then that level should be dropped. One must also be alert to the school's dropout or cohort survival rate. The basic premise here is that more accurate vocational education enrollment projections can be obtained if accurate total enrollment projections are established. The cohort survival method follows a particular cohort or age group through the educational system. Each year a group of students advance one grade in the system. Therefore, the 11th grade enrollment in any year is equal to the 10th grade enrollment of the previous year multiplied by a survival rate. The survival rate is the proportion of 10th graders who remain in the system for another year. For most school systems, the survival rate for a given age group is fairly consistent over time.

If we can establish an average survival rate, we can predict future enrollment for 11th and 12th grade students several years into the future.

Student Needs

A variety of student needs data is generally available through the school or college guidance office. For the purposes of this information sheet, student needs are defined as those needs relating to the physically and emotionally handicapped, and the disadvantaged, including those students who are bilingual, who have special guidance or counseling needs, and who need help in overcoming sex bias. Under the Education Amendments of 1976, special funds are earmarked for all of these areas of need. To qualify for the special federal funding available (up to 50 percent of the total costs), local districts must identify the number of students in their programs who are handicapped or disadvantaged in some way, and must be willing and able to provide the special training, counseling, or other assistance needed. To the extent possible, these students are to participate in regular rather than special vocational education programs.

Post-secondary institutions should make every effort to obtain this type of student needs data from prospective new students and from new enrollees. Secondary administrators should be able to obtain the necessary information through the guidance office from individual student folders, enrollment forms, and transcripts.

Another group other than the secondary and post-secondary students that deserve special consideration because they are often overlooked and have special needs, are those individuals who are unemployed or underemployed. This group may include early school leavers, persons returning from the military, persons wishing to enter gainful employment for the first time (e.g., housewives), and other "non-traditional" students. These persons, due to varying degrees of educational and employment experience, require separate consideration by local administrators in order to encourage their participation in occupational training programs that can be of benefit to them.

One other potential source of valuable data regarding the needs of adults is the data commonly collected by means of follow-up surveys of former students. If the right questions are asked, former students can provide valuable insights about how well the school's or the college's vocational and/or technical programs met their needs as students. The former students will also be able to suggest the types of additional training they may need in order to advance in their careers. More will be said about the planning and use of follow-up studies in the administrator module Develop Local Plans for Vocational Education: Part II.

Student Abilities

Student abilities data has long been collected and utilized by vocational education teachers, counselors, and administrators, and is therefore given only brief treatment here. The brevity of coverage should not be construed in any way as meaning this data is unimportant in program planning, however. Before a student should be enrolled in a vocational program, he or she should possess the "ability to benefit from such training." The student's ability can and should be assessed through the use of various aptitude tests such as the General Aptitude Test Battery (GATB), the use of various intelligence (IQ) examinations, and the use of various standardized and teacher-made achievement tests. Most schools and colleges have a long standing program of aptitude, intelligence, and achievement testing administered by the guidance department or pupil personnel services division. Full advantage should be taken of this data and the expertise available from the staff members working in these departments, when seeking and analyzing student abilities data.

Another aspect of abilities testing that is rapidly gaining prominence in vocational education is that of competency testing. This type of testing normally involves the use of both criterion-referenced knowledge and performance tests. Students, for example, must be able to demonstrate that they possess the prerequisite skills and knowledge before being admitted to an advanced technical program. Once admitted to a course of study, the students must also demonstrate their attainment of the necessary competencies before they are certified as graduates. To admit students who do not possess the prerequisite skills and knowledge needed to be successful in advanced technical or vocational programs, does neither the school nor the students a service.

Parent Preferences and Adult Training Interests

The opinions of parents and other community members should be considered for at least two reasons when planning vocational programs for the youth and adults of the community. The more involved a community is in the planning of educational programs, the more likely these programs will meet their needs and expectations and the more likely they will support through local tax dollars the cost of such programs.

While parents and other community members will be represented in various occupational advisory committees and the local advisory council, it is often desirable to periodically assess individual needs through some type of parent-community survey. (See Sample 3 for an example of such an instrument). These instruments may take many forms and may be mailed to all parents and community members or to a stratified sample of them. Sometimes these surveys are sent home with students who are asked to request their parents to complete and return them to the school.

PARENT – COMMUNITY SURVEY[9] FOR VOCATIONAL EDUCATION PLANNING

The _____ School District is seeking your opinions regarding our educational offerings so that we might better serve the needs of the community. We would very much appreciate your cooperation in completing this questionnaire. Since your name will not be associated with the answers, it is not necessary for you to sign your name.

1. Sex: ☐ Male ☐ Female
2. Marital Status: ☐ Married ☐ Single ☐ Divorced
3. Economic Status: (Please check one.)
   ☐ (1) Above Average ☐ (2) Average ☐ (3) Below Average
4. Age: (Please check one.)
   ☐ (1) Young Adult ☐ (2) Middle-Aged Adult ☐ (3) Older Adult
5. Are you a parent of a school age child? ☐ Yes ☐ no
   If yes, please circle the grade level(s) of your child(ren)
   K 1 2 3 4 5 6 7 8 9 10 11 12
6. Please check the following items "yes," "no," or "no opinion."

YES	NO	NO OPINION	
☐	☐	☐	1. The curriculum offerings in the school appear adequate.
☐	☐	☐	2. Schools should place more emphasis on preparing students for employment.
☐	☐	☐	3. High school students should be encouraged to seek education past the high school level.
☐	☐	☐	4. It is the primary responsibility of the school to stress proper attitudes and work habits that students should have.
☐	☐	☐	5. Vocational education training should be extensive enough to meet the needs and interests of the majority of students.
☐	☐	☐	6. The school should keep the community better informed about its educational programs.
☐	☐	☐	7. I would be willing to pay more taxes for better vocational education training.
☐	☐	☐	8. All students should have a saleable skill after completing a high school education.
☐	☐	☐	9. Students should be able to attend another school to get training that is not available in their local school.
☐	☐	☐	10. The school should provide more guidance and counseling to a student about his/her future education and career plans.
☐	☐	☐	11. Students should have made tentative career plans prior to entering the eleventh grade.
☐	☐	☐	12. Special vocational programs should be available for disadvantaged students or slow-learners.
☐	☐	☐	13. Too much emphasis is placed on students going to college.
☐	☐	☐	14. Vocational courses should be available for adults in the community.
☐	☐	☐	15. More vocational training would reduce the drop-out rate and aid in discipline problems.

7. Overall, how would you rate the education received by students in the _____ School District?
   ☐ (1) Excellent ☐ (3) Average
   ☐ (2) Good ☐ (4) Below Average
8. Circle highest level of education you received for each appropriate level:

☐ Grade School	1	2	3	4	5	6
☐ High School	7	8	9	10	11	12
☐ College	1	2	3	4		
☐ Vo-Tech	1	2				
☐ Other Post-secondary	1	2				

9. Please rank the social and civic skills you believe students should be made aware of in school:
   ___ Etiquette and Manners
   ___ Dress & Grooming
   ___ Individual Creativeness
   ___ Civic Pride
   ___ Music & Art Appreciation
   ___ Written Communications
   ___ Cultural Heritage
   ___ Discipline and Work Habits
   ___ Pleasant Disposition
   ___ Participation in Extra Curricular Activities
10. Please indicate areas of adult education and training that interest you:
    _____
    _____
    _____
    _____

[9] Adapted from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 18.

Regardless of the frequency of such surveys and the administration procedures used, at least two types of data should always be collected. One type is data regarding the programs that parents and community members feel should be made available to the secondary and/or post-secondary students, and the second type of data is information pertaining to the training interests of adults. In addition, these surveys may be designed to elicit opinions regarding:

- values to stress in the curriculum
- reactions to current programs
- support services needed (e.g., counseling, placement, follow-up)

Useful planning data regarding the occupational status of parents and the educational level of the community may also be gathered through parent and/or community surveys.

Summary

The analysis of cumulative data on individual needs, interests, and abilities is an extremely valuable and essential input in the vocational program planning process. Most schools and colleges already have available directly or indirectly in the school's records, much of the data needed. Other data may need to be collected to allow for better planning and a more comprehensive individual needs assessment. Most schools have counselors and other staff members who are trained and skilled in the various facets of needs assessment, and their expertise should be fully utilized.[10]

Local administrators and other vocational program planners should use strategies that will maximize the human development and personal satisfaction of individuals over time. Planning educational programs on the basis of the real needs, interests, and abilities of the enrollees will minimize the extent to which students become "captives" of the system and maximize their self-fulfillment. If there is significant student need and interest in a vocational program or supportive service, and if that program or service will provide economic, academic, or other worthwhile benefits to the students, then there is a strong likelihood that the program is justifiable and worth offering.

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[10]For further information on the variety of standardized instruments and other student data collection techniques available, you may wish to refer to Module F-1, Gather Student Data Using Formal Data Collection Techniques, from the Professional Teacher Education Module Series, (Athens, GA: The American Association for Vocational Instructional Materials, 1977).

You may wish to arrange through your resource person to meet with a guidance counselor from a local school or college to determine what student needs and interests data is being collected. During this meeting, you may wish to obtain copies of data collection forms he or she uses, and to review data that has been collected.

You may wish to write to schools or colleges, and/or testing organizations such as Science Research Associates to request copies of Standardized Student Vocational Interest Surveys. Your resource person may be able to supply you with the names and addresses of sources for these instruments. After obtaining copies of these forms, review them to determine how they could be modified or adapted to fit your local school situation.

The following items check your comprehension of the material in the information sheet, "Assessing Individual Needs and Interests," pp. 31-40. Each of the five items requires a short essay-type response. Please explain fully, but briefly, and make sure you respond to all parts of each item.

SELF-CHECK

1. When planning vocational and technical education programs, explain why individual needs and interests need to be considered?

2. When assessing individual needs and interests, what specific types of data should be considered, and generally, how may each type of data be assembled?

3. What type of special student needs must be given attention under the Education Amendments of 1976?

4. What cautions must be observed in collecting and using student interest data?

5. Explain how you would react to Mr. Jones, a local and very influential businessperson, who, while serving as a member of your local advisory council says, "I don't care what the students' needs and interests are, we should design our vocational programs strictly on the basis of our manpower needs. If the students don't see the need to enroll in those programs, then our counselors aren't doing their job."

Compare your completed responses to the "Self-Check" with the "Model Answers" given below. Your responses need not duplicate the model responses; however, you should have covered the same major points.

MODEL ANSWERS

1. Individual needs and interests must be considered in vocational program planning for several good reasons. First, and foremost, any vocational program offered should be offered so as to meet the needs and interests of potential students. Secondly, any comprehensive vocational program planning effort requires the assessment of individual needs and interests as a basic source of information as to the types of vocational programs and related services that need to be offered. Thirdly, the federal legislation supporting vocational education and each state's plan for vocational education requires that the training programs offered be suited to the needs, interests, and abilities of students.

2. When assessing individual needs and interests, the following types of data should be considered. The respective sources of each type are presented also.

Types of Data	Potential Sources
a. Student vocational and educational interests	a. standardized interest surveys, locally developed interest surveys, student personal files
b. Student needs	b. student folders, transcripts, enrollment forms, follow-up surveys
c. Student abilities	c. student folders, guidance office, aptitude tests, intelligence (IQ) tests, achievement tests
d. Parent preferences	d. parent-community surveys, advisory committees, advisory council
e. Adult training interests	e. parent-community surveys, advisory committees, advisory council, follow-up studies

3. The new legislation amending the Vocational Education Act of 1963 singles out the following persons or groups of persons for special attention and special funding:

   - physically and emotionally handicapped
   - disadvantaged students including bilingual students
   - persons having special guidance or counseling needs
   - persons who need help in overcoming sex bias

   Programs for the disadvantaged and/or handicapped may be supported with federal funds at up to 50 percent of the total cost.

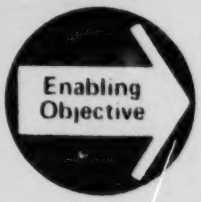
4. Some of the major cautions to be remembered in collecting and utilizing student interest data include: (a) the need to be aware of the dropout rate or cohort survival rate for the various classes, (b) the need to administer the same data collection instruments as much as possible year after year to allow for more uniformity of data collection, and (c) the need to remember that student interests, especially at the lower grade levels and before any real vocational orientation or career training takes place, are very tentative, and hence, likely to change as a student's level of career development increases.

5. While Mr. Jones may have good intentions--he only wants students prepared for jobs that really exist--he seems to misunderstand the American value of individual freedom of choice and the law with regards to how vocational education programs are to be justified. You need to explain to Mr. Jones that while manpower needs data is a very important input to the vocational planning process, the careful consideration of individual needs and interest data is no less important. You might want to review the legal requirements for planning vocational programs with Mr. Jones, and point out that while counselors have an obligation to counsel youth regarding future employment opportunities, they have no right to coerce students into elective vocational courses that do not interest them. You might also wish to point out that even the best vocational programs, with few or no students enrolled in them, cannot be justified nor supported by state and federal funds.

LEVEL OF PERFORMANCE: Your completed "Self-Check" should have covered the same major points as the model responses. If you missed some points or have questions about any other points you made, review the material in the information sheet, "Assessing Individual Needs and Interests," pp. 31-40, or check with your resource person if necessary.

Learning Experience III

OVERVIEW



After completing the required reading, demonstrate knowledge of the procedures for assessing local manpower needs for use in planning vocational education programs.

You will be reading the information sheet, "Assessing Manpower Needs," pp. 49-63.

You may wish to read the information sheet, "Conducting an Employer Survey," pp. 65-68.

You may wish to contact your local or state department of employment security and/or vocational division of the state department of education to determine the kinds of manpower needs information available in your state.

You may wish to meet with a local administrator of vocational education experienced in assessing manpower needs to review the procedures he/she uses.

continued

You will be demonstrating knowledge of the procedures for assessing local manpower needs when planning vocational programs by completing the "Self-Check," pp. 69-70.

You will be evaluating your competency by comparing your completed "Self-Check" with the "Model Answers," pp. 71-73.

For information on procedures for assessing manpower data and sources of such data, read the following information sheet.

ASSESSING MANPOWER NEEDS

The third step in the Vocational Education Planning Model which was presented in Learning Experience I is to assess manpower needs. This step is another important part of the process for planning effective vocational programs. It is as important as a thorough assessment of student needs and interests, and parental preferences and adult training interests.

The major factors to consider in Step 3, "Assessing Manpower Needs" of the vocational education program planning process include:

- definitions of manpower supply and demand
- manpower demand information
- manpower supply information
- occupational information coordinating committees

Definitions of Manpower Supply and Demand

The state department of education and federal legislation requires the local educational agency to justify each instructional program for which funding is sought by showing a clear manpower need for the program. The manpower data required in the annual and long-range plans for vocational education is often derived from a variety of sources such as local employer surveys, area manpower skills surveys, statewide surveys conducted by the Bureau of Labor Statistics or the State Employment Service, and national studies and manpower analyses made by the Department of Labor. In many states, the department of education has worked closely with the state employment service to develop and share manpower needs data with local vocational education planners on a district or area basis.

The sources of manpower supply and demand data are changing and the new Education Amendments of 1976 call for further changes and more coordination of data collection and dissemination efforts between labor, employment, and education agencies at the federal, state, and local levels. It is important to note early that current techniques for forecasting manpower supply and demand fall short of the desired accuracy levels.

Robertson (1973) aptly summarizes the situation with regard to manpower needs forecasting and vocational education planning when he states:

> The accuracy and relevance of manpower forecasts are meaningless to vocational administrators unless the data is utilized as a planning input. Decisions must be made to establish, terminate, and modify instructional programs for occupational training. Manpower forecasts help identify the occupations that are most likely to provide employment for graduates. The up-to-date vocational administrator will use manpower forecasts as one important data input for planning. He will neither ignore manpower needs nor base decisions solely on manpower needs.[11]

Hence, it may be said that manpower needs data can and should be used on a continuous basis by local vocational education planners. At the same time it needs to be said that the process to be used in translating manpower needs data into vocational programs is not well developed. The reader that expects a simple solution to the data analysis and translation problem--a complex process at best--will be disappointed.

Recognizing that manpower needs data is an important, but not the exclusive, source of vocational education planning data, the following information is presented in a way that should be helpful to the planner.

The assessment of manpower needs involves both the assessment of manpower demand and manpower supply information. Manpower demand data is used to provide an estimate of the number of individuals with particular skills who are needed or who will be needed in the near future. Manpower supply data provides an estimate of the number of individuals available from all sources who are likely to enter the labor market with particular skills. Given both an estimate of manpower demand and an estimate of manpower supply, one can determine the likely manpower shortages that will exist by simple subtraction.

Ideally, with this type of information in hand, the vocational program planner has one important source of data enabling him/her to answer the following central questions: what occupations should we be training for, and how many persons should we be training for them? This type of information should indicate the potential the institution has of placing its various graduates

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[11] J. Marvin Robertson, Utilizing Manpower and Follow-up Data: A Perspective for Local Vocational Education Planning. (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1973), p. 8.

in gainful employment situations. It is with this goal in mind, that vocational administrators should concentrate on the individuals need for employment, rather than on the employer's need for skilled manpower. Since actual job placement is probably the most important criterion in evaluating the success of existing programs, and potential job placement the most important criterion in terms of the need for new programs, the importance of obtaining the best possible estimates of manpower supply and demand data becomes obvious.

In obtaining the necessary manpower supply and demand information for your planning, the following decisions need to be made in order to determine what information will be relevant and what methods you will use in order to obtain that information.

What is the geographic region for which supply and demand information is required?--The labor market area can be defined as a "central community (or communities) and surrounding territory in which there is a concentration of economic activity or labor demand and in which workers can generally change jobs without changing their residences."[12] This definition assumes that the worker is not going to move in search of employment, or that if the worker should move, he/she will no longer be considered in the area.

Some definitions of the geographic boundaries of a labor market are affected by the willingness of labor to move from one city to another. A labor market area can be a physical region much larger than that circumscribed by normal community distances. Such definitions are usually occupationally dependent. The labor market for brain surgeons, for example, is the entire nation or larger. However, despite much talk of labor mobility in the United States, labor movement is relatively low within most of the occupations served by vocational programs.

There are two ways of determining the labor market area relevant to your particular vocational planning. One option is to accept and use one of the several labor market areas that exist and are commonly used for such planning decisions. Three of the most common of these areas are (1) the SMSA or Standard Metropolitan Statistical Area, (2) the SEA or Standard Economic Area, and (3) the Bureau of Economic Analysis Areas. The most common of these and most frequently used is the SMSA. The primary objective behind the SMSA approach is to have all reporting federal agencies utilize the same geographic boundaries in publishing statistical data useful for analyzing labor market problems. The criteria used for defining Standard Metropolitan Statistical Areas (SMSA) are essentially those used in defining

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[12] E. Podolske, "Michigan Commuting Patters," Michigan Manpower Quarterly Review, Vol. 4, 2nd Series, 1973, pp. 12-17.

major labor market areas. As of July 1, 1970 there were 233 Standard Metropolitan Statistical Areas in the United States.

Another way of determining the relevant geographic boundary for your school or college is to survey your former vocational students to determine where they actually went to obtain employment. In a practical sense, the labor market area should be a region for which employment and training data analysis is valid and for which data is available or obtainable.

To assist rural areas and smaller urban areas, in recent years many state departments of education have worked closely with the state bureaus of employment security to breakdown statewide planning data into vocational education planning districts or regions of the state. Such data is then supplied to the local educational agencies by the state for planning purposes.

What are the occupational boundaries relevant to your planning?--The labor market also functions within occupational boundaries, which means that supply and demand for labor refers to the availability of, and need for, people with particular occupational skills. The precise names or titles of occupations are listed in the Dictionary of Occupational Titles. This dictionary lists occupations in a hierarchy with several large occupational categories broken down into smaller subcategories.

Since the vocational planner is concerned with occupations requiring skilled and technical workers, the occupations requiring professional workers (four or more years of college) need to be excluded. A document entitled Vocational Education and Occupations has been prepared by the U.S. Office of Education (USOE) and the U.S. Department of Labor to enable vocational planners to translate manpower data gathered by the Dictionary of Titles (DOT) classification codes to the USOE vocational program codes.

Having determined the geographic or labor market area to be considered, and the particular occupations to be included in the planning effort, the planner can either assemble existing manpower needs information and/or use appropriate methods to generate new information.

Manpower Demand Information

This section addresses two major topics related to the task of estimating manpower demand information for educational planning purposes: Forecasting techniques and assembling existing manpower demand information.

Forecasting Techniques.--While forecasting or the projection of future occupational employment opportunities is far from a perfect science, the use of forecasts can help planners identify the occupations most likely to provide employment for graduates.

The accuracy of manpower forecasts is related to the predictability of what will happen to the general economy, to various employers, businesses, and industries. Forecast data is generally more accurate at national levels and least accurate at the local level. Despite their many limitations, manpower forecasting techniques, especially when used by experts, are legitimate planning tools. A general understanding of the various and common forecasting techniques, as well as their limitations, can make manpower data more useful to local administrators and program planners.

Numerous types of manpower forecasts exist. The following represent the more common techniques that can be used for manpower forecasting: (1) extrapolation of trends, (2) econometric techniques, and (3) employer surveys.

Extrapolation of trends is a forecasting technique that provides estimates of future employment on the basis that trends in the future will be similar to trends in the past. Extrapolations represent the most widely used tools for predicting future employment. Extrapolations are simple compared to flow simulations and other methods. As a forecasting technique, extrapolations offer the advantages of speed, efficiency, and economy. Further, trend extrapolations have practical value in that the models associated with them have been highly successful in their ability to forecast. It should be pointed out, however, that the length of period involved in making future projections is a factor critical to the reliability and accuracy of this forecasting technique.

The econometric technique is a statistical projection method which uses economic and population projections and the industry/occupational matrix developed by the Bureau of Labor Statistics. This sophisticated industry/occupational matrix approach to manpower forecasting provides a 10-year forecast that can be useful for planning educational training programs. This technique appears to be most useful at the national, state, or regional labor market levels. Specific problems encountered through the use of the occupational/industry matrix approach include: (1) failure to adequately appraise technological change, (2) failure to identify the specific educational requirements needed for a given occupation or industry, and (3) the fact that the occupational matrix method does not reflect changes caused by economic, technological, and demographic developments.

According to Young et al.[13] the Advisory Committee on Research to the U.S. Employment Service has recommended that the econometric approach replace the area skill survey as a source of

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[13]Robert C. Young et al., Vocational Education Planning: Manpower, Priorities, and Dollars. (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1972).

manpower data for vocational planners. The steps in generating econometric forecasts are described by Young et al. as follows.

(1) Project the population by age, sex, color, and geographical distribution.

(2) Project the labor force, by age, sex, color, educational level, and state.

(3) Based on the assumption of minimal unemployment, an estimate is then made concerning future levels of gross national product, based on trends in productivity, hours of work, and consumer expenditures.

(4) These estimates of final demand are then examined for their implications in terms of industrial output at both the final stage of production as well as among the intermediate and basic industries which provide the inputs to the final production process.

(5) Given the final output expected from the various industrial sectors, estimates are then made of the manpower or occupational structure within each industry required to produce that output.

(6) These estimates of occupational employment by industry, based on the industry/occupational matrix or the BLS matrix, may then be summed to provide the total estimated employment by occupation.

(7) In addition to changes in requirements as a result of growth or decline in occupational employment, estimates are made of those leaving the work force through withdrawal, death, and retirement. These are components of future occupational need--growth and occupational losses are then summed to provide the estimate of new openings for labor force entrants.

Publications utilizing econometric techniques published by the U.S. Department of Labor should be helpful to local vocational planners. Tomorrow's Manpower Needs (U.S. Department of Labor, 1969) projects the occupations by DOT code, and Occupational Manpower Needs; Information for Planning Training Programs for the 1970's (U.S. Department of Labor, 1971) classifies the forecasts according to instructional program.

Employer surveys are another important technique for gathering information required in annual and long-range vocational education plans. They have frequently been used to collect information pertaining to the supply of, and demand for, skilled manpower. In these types of surveys, employers are frequently asked to provide their best estimates of both employment and training needs. Data can be collected rather quickly from

whatever geographic area and whatever agencies and organizations are desired. Heavy responsibility for the quality of the data supplied is placed upon the employers being surveyed. Employer surveys have the advantage, however, of opening communication between the school and the employer.

The techniques used in conducting some community manpower surveys are of doubtful validity or value, and thus may be inadequate for projecting future needs. The following represent the major limitations of some employer surveys.

- Many occupational or community surveys suffer from the lack of complete and objective data.
- Local employer surveys are dependent upon the input of local employers who are not always aware of changing occupational requirements.
- Survey methods tend to produce optimistic projections of local employment demand.

Employer surveys should, where appropriate and necessary, be used for vocational planning purposes but, as with the other approaches, the limitations inherent in this approach should also be kept in mind. In some cases, manpower need evidence collected through local employer surveys has been used to justify offering vocational programs that could not have been supported by national or state level data.

Assembling Existing Manpower Demand Information

There are three principal sources of manpower demand information available to you. These are: national publications and agencies of the federal government that describe national manpower demand information, state publications and agencies that supply manpower demand information relevant to a state and its regions, and local publications and agencies that supply demand information about particular local employment areas.

National Sources of Data.--Probably the most comprehensive manpower information is available from federal sources. However, because they concentrate on national trends and give data relevant to the nation as a whole, they often have limited value for the local administrator seeking to determine the need for local vocational programs. This data can, nevertheless, be valuable for indicating important employment trends and giving manpower information relevant to a large local district or metropolitan area. The following publications are some of the important sources of this kind of information.

- Occupational Outlook Handbook, Bureau of Labor Statistics, U.S. Department of Labor.--The Occupational Outlook Handbook contains a comprehensive survey of all job areas and is one

of the most frequently used references for obtaining national forecasting information. The handbook continues a tradition of providing highly useful information to anyone concerned with career planning. The handbook explains the changing nature of the labor market, particularly as it pertains to the 800 leading occupational areas. The Outlook is published every two years.

- Tomorrow's Manpower Needs, Bureau of Labor Statistics, U.S. Department of Labor.--This publication projects the ratio of trained manpower to total employment; this projection is based on demographic information. In some cases, assumptions about probable shifts in the relative importance of different industry groups are applied to the projections. Data is provided that can be used to make both state and local projections.

- The National Planning Association.--This association has projected the average annual job openings on the basis of national goals. This association uses a technique, based on unfilled job openings, which utilizes the ratio of hard-to-fill jobs (unfilled for 30 days or more) to the total unfilled jobs over a period of time, thus projecting future average annual job openings. The linking of current and past occupational shortages to the Bureau of Labor Statistics' national outlook for these same occupations is a final step in this method of projecting manpower needs.

- Manpower Report of the President, U.S. Department of Labor.--The report is a yearly publication on manpower requirements, resources, utilization, and training. The publication contains sections on:

  (1) the Employment Record, which is a review of employment developments, their economic background, patterns of employment growth, unemployment and underdevelopment, and which contains a look to the future for manpower requirements

  (2) Manpower Policy and Programs, which review the many different training programs

  (3) Manpower Research and Experimentation, which reviews the different manpower requirements and resources, supply and demand, and the scope of research taking place. This report is a good publication for showing the big labor picture nationally and for showing trends and projections of the different segments of the labor force

- Dictionary of Occupational Titles, Bureau of Labor Statistics, U.S. Department of Labor.--This publication provides information on job descriptions, sources of employment, working conditions, training, and other qualifications needed for each occupation listed in the directory.

- U.S. Census Reports.--This report has been particularly useful in identifying the number of persons employed in agriculture and agriculturally related occupations.

State Sources of Information

Each state has a multitude of sources of manpower demand information. In most cases, state level data can be used to, at least partially, justify programs that local planners and advisory groups feel are needed. The mobility of vocational program graduates within states is considerable with todays' modern highways and transportation systems. The following state agencies and associations or their equivalent should be considered possible sources.

- state employment security division
- state department of economic development
- state department of education, vocational division
- state department of commerce
- agricultural extension service
- state level business and trade associations
- state planning groups

Most state employment security divisions periodically conduct regional or statewide employer surveys, the data of which can be most useful.

> In Utah for example, the Department of Employment Security has traditionally assumed the responsibility of providing this information regarding the supply and demand for workers as a service to vocational educators, both at the state level and at the local planning district level. This information is available for the range of occupations represented by current vocational programs. From this data and supporting materials, ocational educators should be able to identify and meet the demand for workers in fields for which they provide training.[14]

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[14] Vocational Education Management Delivery Guide. (Salt Lake City, UT: Utah State Board of Education and Utah State University, undated), p. 2.

These agencies also maintain information on unfilled job openings (those positions unfilled for 30 days or more) which can be valuable planning information. Reasons for difficulty in filling these jobs are categorized as shortage of qualified workers, low wages, poor working conditions, etc. The combination of persistent openings and the reasons for the openings may provide data to help justify instructional programs that should be established.

Local Sources of Information

In some areas, local agencies and organizations are readily able to provide manpower demand data for the local community or area. In other areas, there may be little or no such information available. In some cases a local or regional employment security office will be willing and anxious to assist in conducting a local labor market opportunities survey. The local chamber of commerce may have manpower needs data available from its members, or be willing to obtain or help the school or college obtain such. Local planning groups, public and private employment agencies, and other government agencies (unemployment bureau, health and welfare) may also have data that should be considered.

In that program planning is an ongoing exercise for the local vocational administrator, manpower information relevant to these important planning decisions needs to be continually amassed and updated by the local administrator. This can be an important responsibility of the local advisory council of the vocational institution, and of the occupational advisory committees. Such committees can take the responsibility for continually searching and collecting data that may be available for their occupational area.

Manpower Supply Information

Once one knows the amount of total demand or expected future employment by occupation, one needs to determine the supply that exists to fill these positions. The total supply can be said to consist of all persons available to fill work positions created by demand across all occupations. It includes employed and unemployed persons available to take jobs. In other words, the total supply can be thought to consist of the current labor force plus the net entry of new potential employees.

Individuals can enter the labor force or the ranks of an occupation through three primary methods. They can: (1) move into the labor market from another geographic area, (2) live within the labor market area and become available for employment because they change occupations, leave the military, are currently unemployed, or enter gainful employment for the first time (e.g., homemakers), and (3) graduate or otherwise exit from educational programs. The amount of total migration among

graduates of vocational programs is insignificant and may be ignored for all practical purposes. Entry from outside the labor force is extremely difficult to determine and is usually insignificant for most occupations.

The principal source of labor supply with implications to administrators and planners concerns vocational graduates leaving training institutions throughout the labor market region. If a manpower supply analysis is to be conducted for the purpose of projecting the total amount of labor supply available, a system involving regional cooperation with other relevant training institutions in the labor market area is required.

A complete analysis of the supply of trained graduates from preparatory programs involves the identification of all principal training agencies and their output of graduates by occupational areas. Agencies considered should be those offering preparatory programs for training students who will enter full-time skilled employment upon completion of programs. The following agencies should be included in any supply analysis: (1) public secondary and post-secondary vocational and technical schools, (2) community colleges, (3) private trade and technical schools, (4) private business schools, (5) state trade and technical schools, (6) manpower training programs, (7) state training programs, and (8) two-year programs in four-year colleges/universities.

A source of supply data which may prove helpful is the job order, applicant, and placement activities of the local or regional state employment security offices. While the available occupational detail and frequency of reporting this information varies from state to state, such information is usually available and can be one valuable input in the manpower supply picture. It should be remembered that data based on the activities of the local employment security offices do not measure the total number of job applicants available in any particular market. Many persons, for example, do not register for employment with any agency, and others may register only with private agencies.

The Census of the Population[15] provides the most comprehensive and detailed data available on current supply. Data include employment and unemployment for 445 detailed occupations by color, sex, industry, class of worker, earnings, and a variety of other characteristics. Data are also available by state, region, and SMSA, but not in as much detail as for national data. The Current Population Survey (CPS) is the only source of frequent data on employment by occupation. Estimates of employment for nine major occupational groups are published monthly by the Bureau of Labor Statistics (BLS).

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[15]Census of the Population; General Population Characteristics. (Washington, DC: U.S. Department of Commerce, Bureau of the Census, Government Printing Office).

The occupational employment statistics (OES) survey program of the Department of Labor is designed for use in developing occupational employment estimates by industry. Surveys of technical personnel have been undertaken by the BLS. The BLS has developed a comprehensive set of data on the occupational employment composition of all major industry sectors. Publications include data for 1960, 1967, 1970, 1975, and 1980, set up to form a matrix of 162 specific occupations plus groupings of occupations cross-classified with 116 industries. Revised 1970 and 1980 matrices including approximately 144 occupations and 200 industries are also being prepared. BLS conducts a variety of establishment surveys to collect occupational wage data. Many of these surveys provide reliable occupational employment data as well. Area wage surveys provide annual employment estimates for about 80 occupations, by sex, in six industry divisions.

The federal regulatory agencies such as the Interstate Commerce Commission (ICC), Federal Aviation Agency (FAA), and Federal Communications Commission (FCC) provide a rich source of annual occupational employment statistics for regulated industries. Annual information on over 200 occupations and occupational groups is on file with the regulatory agencies.

Published data on vocational education enrollments by vocational program area are available from the U.S. Office of Education by states and by fiscal year. Most state departments of education also publish information yearly on the number of secondary and post-secondary vocational program graduates by occupational area.

Data on occupational training are more useful when accompanied by follow-up information, because not all graduates of training programs actually enter the occupation. Such data should provide information on the occupational entry rates for individuals who have completed or left early various kinds of training programs. Entry rates for individuals differ widely from program to program and occupation to occupation. For example, graduates of medical schools go into the medical field of work almost without exception because of the heavy investment of time and money in their training. For occupations where training is less rigorous, only a fraction of the program graduates may enter employment. In other occupational areas, to meet labor demand, vocational educators will need to train more persons than there are job opportunities.

The following steps are necessary and required in the estimation of future supply.

(1) an appraisal of the current supply in the particular occupation

(2) estimates of those expected to enter occupations between the planning year and the year of forecast

(3) allowances or adjustments for expected losses through death, retirement, and out-migration

Once the annual supply is known, the data collected can be applied to total annual demand to obtain a close estimate of the unmet needs each year. These estimates can serve to provide quantitative measures of actual training needs each year. Once the necessary information about supply and demand are collected and processed, supply-demand relationships can be determined.

For a detailed review of other sources of manpower supply data, their advantages and limitations, the reader is referred to Occupational Supply: Concepts and Sources of Data for Manpower Analysis, Bulletin 1816, U.S. Department of Labor, 1974.

Generating Additional Manpower Information

The major means available to local administrators and program planners who need additional manpower information is to conduct an actual survey of employers in the geographical and occupational areas being considered. Some of the advantages of such a survey are (1) you obtain information firsthand from employers, (2) information is localized to your geographical region or school district, and (3) employers become aware of your capabilities to train and supply them with needed workers.

While conducting such surveys often proves to be an arduous task, they also have some clear benefits of timeliness, specificity, etc., as mentioned earlier. This type of survey can and generally should be used to collect both manpower supply and manpower demand information. A comprehensive survey of all local businesses, industries, and educational agencies should provide information on:

- current employment by occupational areas
- current training programs and number of trainees
- projected employment needs by occupational areas
- type of vocational skills needed
- type of basic education skills desired
- special employment qualifications, if any

In addition, one may desire to ask questions about their understanding of the current vocational program, their willingness to serve on an advisory committee, their willingness to provide cooperative education training stations, etc.

It should be apparent that conducting a community survey can be a sizeable task. Every effort should be made to identify all available resources who are qualified to assist with the task. Members of the staff planning committee, members of the local advisory council, the local employment security office, and appropriate other individuals and groups with the needed expertise should be considered. There are several different ways the needed data can generally be obtained. Local administrators and planners will need to decide which approach or techniques are best for them. Regardless of the particular approach selected, such a survey needs to be prepared in a scientific and effective way, if it is to provide reliable information for the planner. Before managing such a survey effort, you may wish to read one or more of the following references in the Professional Teacher Education Module Series available from the American Association for Vocational Instructional Materials in Athens, Georgia.

Module A-1, Prepare for a Community Survey
Module A-2, Conduct a Community Survey
Module A-3, Report the Findings of a Community Survey

Occupational Information Coordinating Committees

We can anticipate that the information needed by local administrators for program planning with respect to manpower supply and demand will considerably increase and improve over the next few years. This should result from the increased emphasis given to this responsibility in the 1976 Amendments to the Vocational Education Act of 1963. In Part B, Subpart 1, Section 161(b) the Amendments provide for the establishment of a National Occupational Information Coordinating Committee which shall,

> in the use of program data and employment data, improve coordination between, and communication among, administrators and planners of programs authorized by this Act and by the Comprehensive Employment and Training Act of 1973, employment security agency administrators, research personnel, and employment and training planning and administering agencies at the federal, state, and local levels;
>
> develop and implement, by September 30, 1977, an occupational information system to meet the common occupational information needs of vocational education programs and employment and training programs at the national, state, and local levels, which system shall include data on occupational demand and supply based on uniform definitions, standardized estimating procedures, and standardized occupational classifications; and...;

> By September 30, 1977, each state receiving assistance under this Act and under the Comprehensive Employment and Training Act of 1973 shall establish a State occupational information coordinating committee composed of representatives of the state board, the state employment security agency, the State Manpower Services Council, and the agency administering the vocational rehabilitation program. This committee shall...implement an occupational information system in the state which will meet the common needs for the planning for, and the operation of, programs of the State board assisted under this Act...

While this type of legislation seems long overdue, the intended results should be emphatically welcomed. A difficult task faces these new committees, so local planners should expect some delay before useful data reaches the local level, but once the mechanisms called for are operational, better and more useful program planning data on manpower needs should be available.

Summary

Vocational educators and planners have long utilized labor demand and supply data in planning programs. In theory, a labor-supply analysis serves to help keep manpower supply related to manpower needs. Admittedly, present manpower forecasting techniques leave much to be desired.

Technological forecasts and projections of manpower requirements have little value if they lack a solid base of empirical data. Occupational projections must be based on anticipated trends in specific occupations and/or occupational patterns in a given industry.

Projections for employment in a given occupation should not be interpretations based solely on past developments. Projections must be based on: (1) anticipated trends in employment in a given industry, (2) changes in the labor market, and (3) the composition of the labor market in the particular industry.

Program planning cannot be totally effective without including some form of manpower planning that focuses on critical shortages. To plan programs that are based exclusively on the employment needs of a local community is undesirable since it fails to take into account the needs and interests of the students. No vocational program, however, should be considered or offered when there are no students who desire training, even though there may be a great demand and short supply in the occupational field.

For information on the steps involved in conducting an employer survey, you may wish to read the following information sheet.

CONDUCTING AN EMPLOYER SURVEY[16]

You will find the following steps useful when conducting an employer survey to determine manpower needs.

1. Identify a group or committee to assist in planning and executing a manpower survey--preferably one that has an interest in, and use for, the survey results. The individuals you select as members of the committee or group should be knowledgeable about the community's businesses, industries, and agencies. The following are possible groups (or combinations of groups) you may wish to involve.

   - a committee of vocational education leaders (directors, department chairpersons, etc.) from all of the schools in the area or region to be surveyed
   - a committee composed of representatives from each of your ongoing specialized advisory committees
   - a general advisory council with broad representation from all segments of the community--both labor and management

2. Meet with the committee you select to establish a plan for completing the manpower needs survey.

3. Select a director who has the time and background to administer the study and write the final report.

4. Discuss with the committee the assignment of tasks to individuals or subcommittees and discuss projected deadline dates.

5. Outline on map the region or geographic area within which your comprehensive survey will be conducted.

6. Prepare a listing of the businesses, industries, and agencies within the geographic area. This list should include both manpower users and suppliers of trained personnel. Obviously,

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[16]Taken from Vocational Education Management Delivery Guide. (Salt Lake City, UT: Utah State Board of Education and Utah State University, undated).

some organizations will fall into both categories. For example, a business having a formal training program for a given job classification would be both a supplier of manpower and a user of the same. In completing this step, your committee can be of great assistance. In addition, the following documents may be consulted:

- yellow pages of the telephone directories in the geographic area to be surveyed
- directories of manufacturing associations, the chamber of commerce, etc.
- listing of organizations and agencies contacted by the United Fund

7. Determine the technique(s) to be used for data gathering. The following techniques are most popular.

   - personal interview
   - mail survey
   - telephone survey

8. Develop a timetable for completing the survey.

9. Design the instrument(s) to be used to survey manpower users and suppliers in order to obtain local manpower supply and demand information.

10. Have your committee review the instrument or instruments prepared. Committee members will often have valuable suggestions for improving instruments in order to ensure proper interpretation of questions.

11. If data processing services can be obtained for tabulating the survey responses, the instrument(s) should be reviewed with data processing personnel prior to finalizing it. This will ensure proper coding of the items for key punching.

12. Finalize the survey instrument(s) you intend to use.

13. A small sample of organizations and agencies should be selected for pretesting the instruments and for providing experience to the data collectors, if necessary. On the pretest, ask the respondents to indicate if any questions are unclear or if it is difficult to answer any questions.

14. Analyze the pretest data to determine whether the instrument(s) is obtaining valid and reliable data.

15. Revise the instruments, if necessary, on the basis of pre-test results.

16. Conduct the survey using one of the following methods:

    - Personal Interview Method.--Conduct an orientation for interviewers who will be making the visitations. Written procedures will need to be prepared and used by all data collectors to ensure reliable and valid responses.

    - Mail Survey Method.--If a mail survey is to be used, a cover letter on letterhead stationery should be sent along with the survey to the different businesses. The letter should be co-signed by the director of vocational programs and perhaps by the chairperson of your committee. Enclose a self-addressed, stamped envelope with the survey.

    - Telephone Survey Method.--The telephone survey may be used for obtaining limited information for a specific occupational area. This method is very limited in use and is not usually appropriate for a comprehensive survey.

17. Analyze and report the data to the survey committee. In analyzing and reporting the data, the following should be done:

    - Describe the procedures used in completing the survey, including committees utilized, sample surveyed, survey technique used, and why the survey was conducted.

    - Describe the findings of the report, including the number of concerns surveyed, the number and percentage of returns or responses, the number of usable and unusable returns, and the tabulation of responses to each question on the survey instrument. (Tabulating responses manner allows the reader to see both the question and the total of responses for that question).

18. When making implications about the results of a survey consider the following points:

    - A rapid reversal in the need for trained personnel can occur with even minor changes in the level of the economy, particularly in technical fields supporting the production of consumer goods. In the human or personal services, there is less fluctuation in manpower needs when the overall level of the economy changes; thus, demands are more predictable. If there is a discrepancy between national and local data, and if you know that your local survey is valid, put your stock in the local survey.

- Not all graduates who are trained are immediately available for placement in related jobs within the boundaries of the district. Many migrate to other districts or states, enter the Armed Forces, continue in school to further education, or completely withdraw from the labor force and do not accept employment. This last group of graduates is considered a short-run loss to the district; therefore, the number of projected graduates may somewhat exceed the demand.

For information on the kinds of manpower needs information available in your state, you may wish to contact your local or state department of employment security and/or vocational division of the state department of education.

You may wish to arrange through your resource person to meet with a local vocational administrator experienced in assessing manpower needs to review the procedures he or she uses. During the meeting you may wish to discuss the sources of manpower data he or she uses, types of forecasting techniques that he or she has found to be most effective, etc.

The following items check your comprehension of the material in the information sheet, "Assessing Manpower Needs," pp. 49-63. Each of the six items requires a short essay-type response. Please explain fully, but briefly, and make sure you respond to all parts of each item.

SELF-CHECK

1. Why must manpower needs be assessed in developing a local plan for vocational education?

2. What are the two major inputs or factors that must be analyzed in the process of determining likely manpower needs?

3. Describe some of the sources at the federal, state, and local level from which manpower demand information may be readily available.

4. Discuss some of the sources at the local, state, and federal level from which manpower supply information may be available.

5. When local manpower supply and/or demand information is unavailable or inadequate, what alternatives are available to the local planner?

6. What is the purpose of the national and state level Occupational Information Coordinating Committees (OOIC) established under the Education Amendments of 1976?

Compare your completed responses to the "Self-Check" with the "Model Answers" given below. Your responses need not duplicate the model responses; however, you should have covered the same major points.

MODEL ANSWERS

1. Simply, manpower needs must be assessed in order to determine current and future job opportunities. Through the use of manpower needs information, the program planner is able to determine which jobs are in demand, how large that demand is, and where the demand is located. With this information, the program planner is able to answer the following important planning questions: (1) what programs should be offered, (2) how many programs should be offered, and (3) where should the programs be geographically located. This type of justification data is also required to be submitted as part of the annual application to the state department for financial support.

2. When determining likely manpower needs, two major factors must be analyzed by the program planner. They are manpower demand information that provides an estimate of the number of individuals with a particular skill that are needed or will be needed in the future in a particular labor market, and manpower supply information that gives an estimate of the number of individuals available and entering the labor market with a particular skill. Both manpower supply and demand information need to be assessed in terms of size (how many positions are available), type (what kinds of occupations are represented by the positions), time (when will the positions be available), and location (where geographically are the positions located).

3. At the federal level there are a number of relevant publications. Perhaps the most helpful is the Manpower Report of the President published by the U.S. Department of Labor, each year. It reports on manpower requirements, resources, utilization, and training. Another helpful publication from the same office is called Tomorrow's Manpower Needs. A fairly comprehensive publication that is updated every two years is the Occupational Outlook Handbook. The information in each of these is general, and therefore, limited in application to a particular local planning situation.

   At the state level, the state employment security division is probably the best source of manpower demand information. Other agencies that should be considered include your state department of economic development, vocational division of

the state department of education, state department of commerce, agricultural extension service, and various business and trade associations.

At the local level the most helpful source of such information may be your local office of the state employment security division. The chamber of commerce may have manpower needs data available or be willing to help obtain such. In some communities local planning groups, private employment agencies, and other government agencies may have useful data.

4. Major sources of manpower supply information at the national level include the U.S. Office of Education, the Department of Labor (Bureau of Labor Statistics), and federal regulatory agencies such as the Interstate Commerce Commission, the Federal Aviation Agency, and Federal Communications Commission.

   At the state and local levels major sources of supply information include the vocational division of the state department of education, training organizations and agencies themselves, and the various offices of the state employment security division.

5. When local manpower needs information is not available, or is inadequate, then the local administrator must think in terms of conducting an employer survey to obtain the necessary information from local employers and local vocational training institutions. From such a survey the local administrator would expect to obtain fairly reliable information about the present job numbers, future job expansion, entry-level skills for such jobs, and desired upgrading of skills. Information should also be obtained on the availability of other training programs, both in public and private institutions, and expected graduates from these programs.

6. National and state occupational information coordinating committees have the responsibility to improve coordination between, and communication among, administrators and planners

   of programs authorized by the Vocational Education Act and its Amendments, and by the Comprehensive Employment and Training Act of 1973. These persons include employment security agency administrators, research personnel, and employment and training planning and administering agencies at the federal, state, and local levels. These committees must also develop and implement an occupational information system to meet the common occupational information needs of vocational education programs and employment and training programs at the national, state, and local levels. The system is to include data on occupational demand and supply based on uniform definitions, standardized estimating procedures, and standardized occupational classifications.

LEVEL OF PERFORMANCE: Your completed "Self-Check" should have covered the same major points as the model responses. If you missed some points or have questions about any other points you made, review the material in the information sheet, "Assessing Manpower Needs," pp. 49-63, or check with your resource person if necessary.

Learning Experience IV

OVERVIEW

After completing the required reading, demonstrate knowledge of the procedures for determining the vocational programs and support services needed.

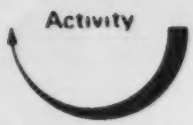
You will be reading the information sheet, "Determining Program and Support Service Needs," pp. 77-98.

You may wish to review one or more comprehensive local vocational education needs assessment planning documents.

You may wish to read Hamlin and Muth, Planning for Vocational Education, Chapter IV.

You will be demonstrating knowledge of the procedures for determining the vocational program and support services needed by completing the "Self-Check," pp. 99-100.

You will be evaluating your competency by comparing your completed "Self-Check" with the "Model Answers," pp. 101-102.



For information on analyzing and summarizing community, individual, and manpower needs data, so that needed vocational programs and support services can be identified, read the following information sheet.

DETERMINING PROGRAM AND SUPPORT SERVICE NEEDS

The comprehensive planning model presented in Learning Experience I is a nine-step process used for planning vocational programs. The fourth step in the process--determining vocational program and support service needs--is begun after community, individual, and manpower needs data have been obtained. It requires that all the data obtained be summarized and displayed so that the various vocational programs and support services needed can be fully identified. Following is a discussion of this step.

The major factors to consider in Step 4, "Determining Program and Support Service Needs" of the vocational education program planning process include making an:

- analysis and synthesis of the needs data assembled
- analysis and review of existing programs and services
- identification of programs and services needed

The goal of this step in the local planning process might be described as an effort to identify or list all of the various vocational programs and support services needed to satisfy all the individual and manpower needs of the community or area. At this point in the process, the local administrator and other planners should think in terms of the "ideal," forgetting for the moment, if possible, legal, financial, and other constraints which may in the end prevent achieving the ideal. Unless planners ascertain what the ideal would be, our vision of what might be is likely to be too narrowly confined to thoughts of what we have done in the past. This is the stage of the planning process where imagination and creativity should be given free reign in terms of ways the college or school might be innovative to satisfy real needs. The staff planning committee and advisory council should not confine their thinking to the conventional programs and services used to meet needs. Instead, they should explore under the local administrators leadership, the possibilities of new courses, new services, and modified programs.

Analysis and Synthesis of the Data Assembled

Before planners can dream about the new and innovative ways in which vocational needs can be met, it is necessary to summarize the data assembled in a manner that permits it to be understood, studied, and used as a basis for planning recommendations. Unfortunately, there is no simple or best format, process, or procedure for analyzing and using all the data available. In fact, if one takes the time to review what others have done in the way of comprehensive vocational education needs assessment, he/she will find that a wide variety of approaches, techniques, forms, and instruments have been used.

Some general guidelines and procedures for processing and using such data, however, can be offered. For purposes of this discussion, three basic types of data previously described in detail will be considered: (a) community data, (b) individual needs data, and (c) manpower needs data. It is the careful summarization, analysis, and interpretation of these various inputs to the needs assessment phase of the planning process that becomes the basis for everything that follows in sound educational planning.

With the needs assessment process requiring data inputs from a variety of sources, it becomes imperative that some structure be given to the process. There must be a conceptual framework which illustrates all the essential elements of the process and shows how they relate to each other. An expanded version of the needs assessment phase of the Vocational Education Program Planning Model given earlier is presented for that purpose in Figure 2.

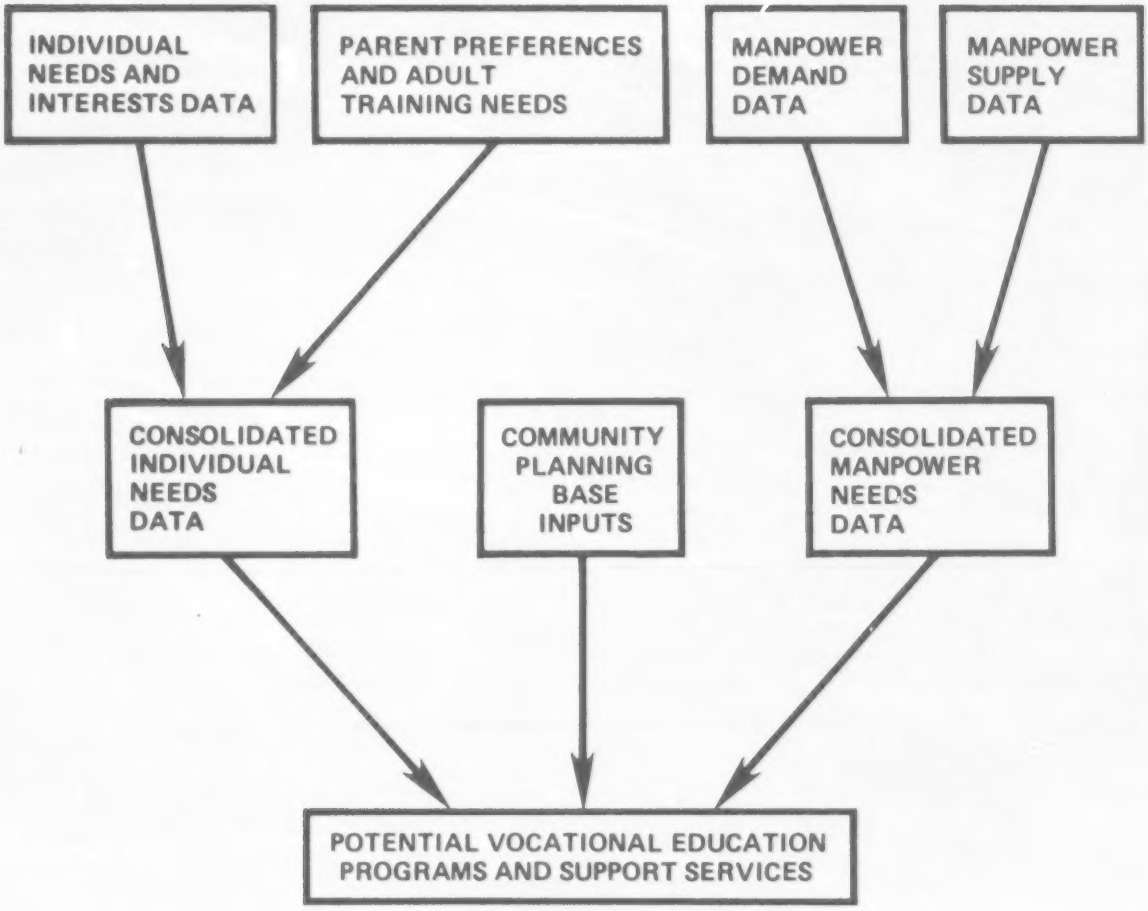
At a glance, it can be visualized how the various inputs in the needs assessment phase lead to an identification of the various vocational programs and support services that are needed. In simple terms, Step 4 in the planning process results in the identification and documentation of all the problems or needs that potentially could be met through appropriately designed and operated vocational education programs and support services.

The most general guideline that needs to be remembered at this point in the process is that to be useful the data obtained, regardless of the source, must be summarized and presented in some meaningful form so that the program planners and various decision-makers will be able to understand the data and recommend programs and/or services that can be justified on the basis of real needs. Some of the many ways in which the various types of community, individual, and manpower needs data can be summarized and displayed are now considered.

Community Data.--This type of data can and has been summarized in many different ways. One sample form for presenting a community profile is given in Sample 4. This community profile

Figure 2

INPUTS TO THE VOCATIONAL EDUCATION NEEDS ASSESSMENT PHASE OF THE PROGRAM PLANNING PROCESS


INDIVIDUAL NEEDS AND INTERESTS DATA
PARENT PREFERENCES AND ADULT TRAINING NEEDS
MANPOWER DEMAND DATA
MANPOWER SUPPLY DATA
CONSOLIDATED INDIVIDUAL NEEDS DATA
COMMUNITY PLANNING BASE INPUTS
CONSOLIDATED MANPOWER NEEDS DATA
POTENTIAL VOCATIONAL EDUCATION PROGRAMS AND SUPPORT SERVICES

SAMPLE 4

COMMUNITY PROFILE[17]

Population Factors or Characteristics	1970	1975	1980	Percent Change From 1970 to 1980
General Population				
Male				
Female				
White				
Non-white				
School Aged Population				
Civilian Labor Force				
Unemployment Rate				
High School Dropouts				
Education Level				
Elementary Education Only				
Secondary Education				
One to Three yrs College				
Completed College				
Completed PS or Vo-Tech				
Incident Rate of Juvenile Delinquency				
Number of Single Heads of Household				
Property Tax Valuation				
Total Mills Voted for School District				
Approved School Budget				
Vocational Education Expenditures				
Number of Vocational Courses				

[17]Taken from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 19.

form calls for obtaining data on several important community factors for two years--1970 and 1975--as a basis for projecting what the situation is likely to be in 1980. This type of community profile projection may be especially helpful in developing a list of expected long-range vocational education needs. In addition to general population and labor force characteristics, it should be noted that data on the educational level of the citizens and the community financial status is called for. In addition to the kinds of community data called for on the sample profile, the following kinds of community data may also be helpful.

- personal income distribution data
- U.S. Census data for community or area
- major occupational groups (areas) in which adults of community are employed
- professional, employee, and/or political organizations active in the community

Individual Needs Data.--A sample form for summarizing general demographic information about the current student body is given in Sample 5. In addition to providing a summary of student enrollment by grade level, this form can also be used to summarize dropout information, general student achievement information, and expected future educational goals.

In most needs assessment efforts some type of student interest survey summary will also be provided to indicate the students first, second, and/or third choice of vocational course or training program area. A sample of this type of summary is given in Sample 6. The type of school system summary report provided by the OVIS student interest survey summarizes the percentage and number of students who choose each vocational program (includes students first and second choices).

Another useful way of reporting student needs and interests is by presenting data on the occupational plans (job preferences) of students. This type of student interest data is collected and can be reported in summary form on both the Kuder Form DD interest survey and the OVIS survey. This type of data is also commonly collected and can be easily tabulated on locally developed student interest surveys.

When assessing individual needs most schools and colleges will also want to assemble data on parent preferences for their children and on adult vocational training needs. A sample of a summary of parent interest data is given in Sample 7.

Manpower Needs Data.--There are endless ways in which manpower supply and demand data can be summarized and presented. Regardless of the various forms used, the planner should attempt

SAMPLE 5

CURRENT STUDENT BODY PROFILE[18]

School District: _____ School Year: _____

Grade Level	Current Enrollment	Number Who Dropped Out from Previous Years	Number Who Are Repeating the Same Grade	Standard Test Achievement Levels			Number of Potential Dropouts	Future Level of Education Expected (Use interest surveys or other available data)				
				Local Norm	State Norm	National Norm		Professional + 4 yr. col.	4 yr. col.	Vo-Tech or 2 yr. col.	H.S.	Jr. Hi
K												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

[18]Taken from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 14.

SAMPLE 6

COURSE CHOICES OF STUDENTS[19]

A complete summary of course choices presented below is the list appearing in the Informational Booklet. Other choices made by students which are not on the list are Airline Hostess, Salesman, and Modeling.

CHOICE OF VOCATIONAL COURSES BY THOSE INTERESTED IN PREPARING FOR AN OCCUPATION

Courses	Niagara 1st	Niagara 2nd	Niagara 3rd	Orleans 1st	Orleans 2nd	Orleans 3rd	Genesee 1st	Genesee 2nd	Genesee 3rd	Total Choices 1st	Total Choices 2nd	Total Choices 3rd	Rank
Agricultural Machinery	17	35	22	8	14	11	15	27	17	40	76	50	19
2. Auto Mechanics	212	146	83	59	36	20	72	34	32	343	216	135	3
3. Auto Body Repair and Service	47	158	81	15	51	12	15	58	22	77	267	115	7
4. Agricultural Sales and Service	5	21	16	1	7	7	6	8	6	12	36	29	23
5. Beauty Culture	17	152	148	45	40	30	65	37	53	281	230	231	2
6. Bookkeeping	57	123	166	13	28	30	16	48	58	86	199	254	6
7. Business Machine Operation	31	65	100	6	11	15	16	16	21	53	92	136	12
8. Carpentry and Building Construction	46	49	62	9	6	11	18	22	19	73	77	92	13
9. Clerk Typist and Receptionist	76	274	159	20	43	36	23	79	34	122	396	229	4
10. Commercial Art	92	98	87	13	15	9	24	17	15	129	130	111	8
11. Drafting, Mechanical	97	72	61	10	9	11	20	21	17	127	102	89	10
12. Dental and Medical Assistant	60	98	83	10	12	10	16	32	21	86	142	114	11
13. Electric Appliance Repair	8	31	31	5	10	7	2	5	14	26	46	52	21
14. Electricity and Electrical Wiring	30	79	65	8	14	12	9	72	15	47	115	92	14
15. Electronics Technology	17	65	67	22	5	6	24	19	6	163	89	79	9
16. Farm Operation and Management	36	24	29	19	15	14	39	20	20	94	59	63	15
17. Food Preparation and Service	15	32	53	4	13	10	8	15	17	27	60	80	20
18. Landscaping and Horticulture	15	35	34	2	5	4	4	3	10	21	43	48	22
19. Machine Trades	34	40	49	5	4	15	6	7	24	45	51	88	18
20. Plumbing, Heating and Refrigeration	9	5	15	1	1	3	2	2	8	12	8	26	27
21. Practical Nursing	132	121	87	35	23	23	47	34	25	214	178	135	5
22. Printing Trades	7	12	16	2	1	3	0	3	3	9	16	25	25
23. Retail Sales and Management	50	36	53	9	7	9	4	4	9	63	47	71	16
24. Secretarial and Stenographic	345	150	135	54	23	35	94	43	43	493	216	213	1
25. Sheet Metal Work	2	10	28	1	2	6	1	4	8	4	16	42	24
26. Textile Fabrication and Upholstery	7	8	15	0	1	8	3	1	6	10	10	29	26
27. Welding	14	40	89	4	8	29	4	10	28	22	58	146	17
28. Other	820	357	228	65	29	28	147	66	45	1032	452	301	

[19]Taken from Erwin J. Horwitz, Will We Be Prepared? A Plan for Vocational, Industrial and Technical Education. (Albany, NY: The University of the State of New York, The State Education Department, 1964), p. 29.

SAMPLE 7

PARENT INTEREST IN SPECIFIC COURSES[20]

Would you be interested in an adult class to improve your occupational skills?

	Niagara		Orleans		Genesee		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Percentage	
Yes	1196	43	286	49	346	43	1824	44
No	1365	50	263	45	427	52	2055	50
No response	190	7	36	6	43	5	269	6
Total	2751	100	581	100	816	100	4148	100

CHOICE OF FATHERS FOR ADULT COURSES

Courses	Niagara			Orleans			Genesee			Total			Rank
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	
1. Appliance Repair	89	68	61	14	10	12	18	15	10	121	93	83	5
2. Auto Mechanics	74	74	42	29	20	11	20	15	9	123	109	62	4
3. Bookkeeping - Accounting	58	30	27	9	6	4	19	6	11	86	42	42	9
4. Carpentry	76	68	54	19	19	6	31	23	17	126	110	77	3
5. Dental - Medical Assistant	3	1	1	0	0	0	1	1	1	4	2	2	14
6. Electricity	84	76	69	20	25	24	19	31	21	123	132	114	1
7. Farm Management	16	13	9	15	5	5	12	8	5	43	26	19	10
8. Food Service	11	5	7	1	4	0	4	3	1	16	12	8	12
9. Hospital Aide - Practical Nursing	6	2	1	2	0	1	1	0	0	9	2	2	13
10. Machine Trades	64	48	42	11	12	12	17	13	12	94	73	66	7
11. Office Machine Operator - Clerk Typist	10	13	9	2	5	4	3	7	3	15	25	16	11
12. Plumbing, Heating and Refrigeration	70	69	62	16	20	16	18	17	19	104	106	97	6
13. Retail Sales Management	57	51	17	11	5	7	21	9	5	89	65	29	8
14. Welding	67	68	72	21	20	28	29	20	23	117	108	123	2
15. Other	146	79	55	32	15	9	38	17	9	216	111	73	

[20]Taken from Erwin J. Horwitz, Will We Be Prepared? A Plan for Vocational, Industrial and Technical Education. (Albany, NY: The University of the State of New York, The State Education Department, 1964), p. 26.

to develop a picture of the present and future labor supply and demand for the various occupational areas. This type of data is probably best summarized separately by level (national, state, and local or regional) before being combined on a single sheet. For a sample form that could be used to summarize manpower demand data at the local, state, or national level, see Sample 8.

A sample format for summarizing manpower supply information is presented in Sample 9. Because of the reasonably limited mobility of most vocational program graduates, this type of data is generally summarized only for the local area and/or state.

A sample "Local Manpower Needs Summary" form that can be used to help pull all of the local manpower needs data together is given in Sample 10.

Many more variations of the various data summary forms available could be presented. It is hoped that a sufficient sample has been given to allow the reader to select, adapt, or develop those summary devices most appropriate to his/her particular planning situation.

Once all of the community, individual, and manpower needs data has been synthesized, the analysis process to determine program and support service needs can begin.

Analysis and Synthesis of Existing Programs and Services

Before the final determination of vocational programs and support services needed is made, it is essential to consider the available types of information about existing programs and services. Although not an all inclusive list, the following represent some of the major sources of information to consider in assessing needs as they relate to existing programs.

- former student follow-up surveys
- present student surveys
- employer (reaction to programs) surveys
- parent and/or adult program reaction surveys
- school personnel inputs including:

    vocational teachers
    general education teachers
    pupil personnel services staff
    administrators

- state department supervisory visit reports
- state department program evaluation reports

SAMPLE 8

DATA: NATIONAL DATA FOR CURRENT PROGRAMS

TASK: JOB MARKET ANALYSIS

DATE PREPARED: _____ COMMUNITY: _____

Col. 1	Col. 2	Col. 3	Col. 4		Col. 5	Col. 6
Area of Employment Demand	Source of Data	Current Level	Projected Annual Level of Demand 19	19	Percentage of Change/or Trend	Comments

SAMPLE 9

MANPOWER SUPPLY SUMMARY

Community: _____ Area Surveyed: _____

Occupational Training Program	Number of Graduates Three Years Ago	Number of Graduates This Year	Number of Graduates Anticipated Three Years From Now	Placement of Graduates Who Seek Immediate Employment After Graduation

SAMPLE 10

LOCAL MANPOWER NEEDS SUMMARY[21]

Community: _____ School Year _____ Area Surveyed (County, EDA District, Etc.): _____

(1)	(2)	(3)	(4)			(5)	(6)	(7)
Occupational Area	Current Employment	Yearly Labor Demand	Local Supply			Yearly Vocational Output	Output From Other Training Sources	Training Needs Col. 3 – Col. (5+6)
			Scarce	Adequate	Surplus			
Executive								
Professional								
Technical								
(Specify Areas) Quality Control								
Managerial								
(Specify) Office								
Plant Supervisor								
Clerical & Sales								
(Specify) Secretary								
Bookkeeper								
Accountant								
Data Processing								
Sales								
Skilled								
(Specify)								
Semi-Skilled								
(Specify)								
Unskilled								

SAMPLE

88

94

95

[21] Adapted from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 22.

- accredition study reports
- advisory committee recommendations

While most vocational education planning efforts will not have available nor want to collect all of these types of data because of personnel and cost constraints, they should all be considered. On the other hand almost all schools and colleges will have some of this information readily available (e.g., follow-up survey data, program evaluation reports) because it is required by law or state department procedures. Other data such as school personnel reactions and advisory committee recommendations are so essential to effective planning that, if the principle of involving those concerned is to be adhered to, such data should somehow be assembled and analyzed if not already available.

This type of existing programs and services analysis should also include, if time and resources permit, some assessment of other public, private, and manpower training programs and services provided in your planning area. The focus of the analysis here is what student and community needs are being met by the existing programs and services, and what, if any, are the unmet needs related to these programs and services.

The various types of evaluative data that can be collected and used to assess program and support service effectiveness are further explained in the module, Develop Local Plans for Vocational Education: Part II. The intent of this brief review of data sources is to point out the time in the needs assessment process that this type of data should be given special consideration, and to indicate how it can be used to help identify the vocational programs and support services needed.

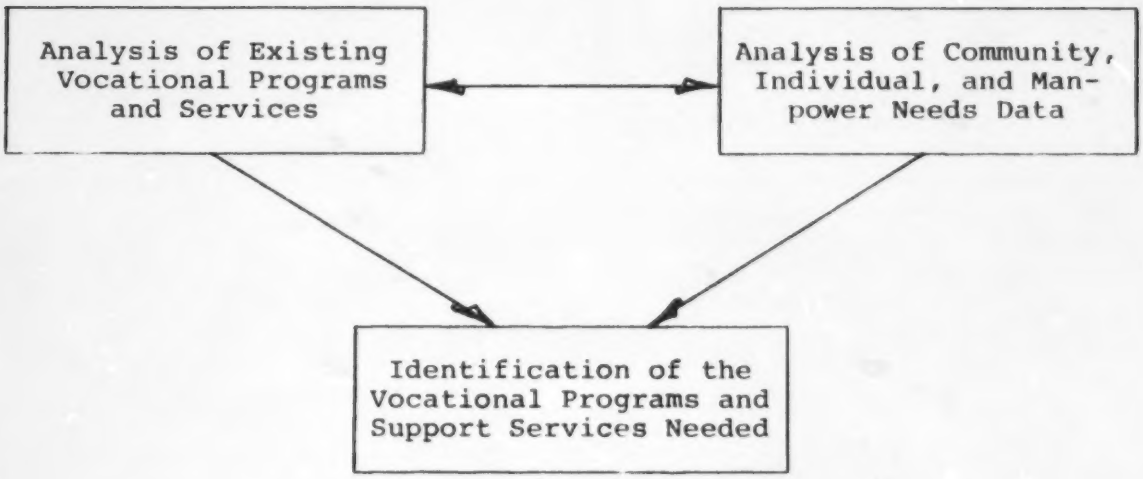
Identification of Programs and Services Needed

This activity involves the identification of needs for vocational programs and services using all the information that has been gathered about community, individual, and manpower needs and obtained from the analysis of existing programs and services. The pulling together of all the major data inputs in order to arrive at a documented list of the vocational programs and support services needed is illustrated in Figure 3.

This activity has been described by some planners as a type of "discrepancy analysis." The analysis of the community, individual, and manpower needs data should result in a description of "what ought to be" while the analysis of existing programs and services results in a description of "what currently is." Wherever a gap exists between "what is" and "what ought to be" it may be said that a need or problem exists. Once these problems or unmet needs are identified and documented, they can be prioritized, and recommendations made for alleviating them. At least

FIGURE 3

PULLING TOGETHER MAJOR DATA INPUTS


Analysis of Existing Vocational Programs and Services
Analysis of Community, Individual, and Manpower Needs Data
Identification of the Vocational Programs and Support Services Needed

four types of recommendations may be the product of this problem-solving activity. These recommendations will normally include:

- recommendations as to what programs and services should be continued as is
- recommendations as to what programs and services should be modified
- recommendations as to what programs and services should be discontinued
- recommendations as to what new programs and services should be added

The identification of needs or problems should not be viewed as criticisms of the current programs and services but as deficiencies that should help the planner and decision-makers plan programs of vocational education that will better serve the needs of the institution's clientele.

In the process of identifying the needs, care should be taken to review the various data inputs in a systematic fashion and to carefully document the need for program additions, deletions, and changes. The better the job of documentation done, the better the case can be presented to the decision-makers. An

example taken from the Arkansas' Guide for Local School Administrators (1977) is presented here with some adaptation to illustrate how needs can be documented.

> Suppose the goal of your high school after completing a needs assessment study, was to enroll 60 percent of its students in vocational education programs by 1980. And suppose it was found, based on previous enrollment data, that it was likely only 25 percent of the students could be expected to enroll in vocational programs by 1980 unless some action was taken to change the expected trend.
>
> Through the needs assessment surveys the local school district might find that one or more of the following problems would prevent attaining the desired goal:
>
> Inadequate counseling and guidance services
> Inadequate number of training programs
> Inadequate training facilities
> Limited financial resources
> Student and parental attitudes
> Social and economic factors
>
> Following through with the example, inadequate counseling services may have been identified by such questionnaire items as:
>
> STUDENT SURVEY.
>
> #12 - How much help have the following persons given you in planning your future career.
> #13 - Do you feel you need more vocational information or counseling to help you make better vocational plans?
>
> STUDENT FOLLOW-UP SURVEY.
>
> #7 - Is your job what you planned to do prior to leaving high school?
> #8 - How well do you consider your high school prepared you for your FIRST full-time job?
> #11 - What course(s) have you needed that you did not or could not take in high school?
> #15 - Does your present job give you satisfaction?
>
> PARENT-COMMUNITY SURVEY. (Findings)
>
> #10 - The school should provide more guidance and counseling to students about their future education and career plans.
> #11 - Students should have made tentative career plans prior to entering the eleventh grade.

#13 - Too much emphasis is placed on students going to college.
#15 - More vocational training would reduce the dropout rate and the number of discipline problems.

BUSINESS AND INDUSTRY SURVEY.

#2 - Available supply of qualified workers?
#5 - Do youth have a realistic concept of what is required of a beginner in the job for which they apply?

The tabulated responses to these questions all have implications which are directly related to counseling and guidance activities and may document the problem of inadequate counseling and guidance services. For example, negative responses to the above questionnaire items would indicate:

Students lack knowledge about career options
Counseling and guidance services are not pursued by the non-college bound student
Students have unrealistic career and education aspirations
Students entered their employment by chance rather than by design.

Identifying problems will involve looking at all related questionnaire items for each group surveyed regarding certain problem areas. In fact, the questionnaires must be designed specifically to elicit response to items that deal with such problem areas.

The analysis form shown in Figure 4 will enable the decision-makers to assess the responses made between the various groups surveyed and related information items regarding potential problem areas or concerns.

The data presented to the decision-makers will not necessarily provide all of the answers in the planning process. For example if students and parents' responses indicate "no problem" and former students and business and industry indicate "problems," the local decision-maker will be required to negotiate between the two points of view:

Whose opinions will carry more weight?
Whose opinions are more realistic?
How can the school district meet the needs of all groups?

FIGURE 4

ANALYSIS FORM FOR IDENTIFIED PROBLEM AREAS

PROBLEM AREA:						
SURVEY Group	Questionnaire Item	Response			Problem Identification	
		Positive	Negative	No Opinion	Yes	No
Students						
Former Students						
Parent-Community						
Business-Community						

The survey findings may reveal a need to make the general public more knowledgeable about the vocational education needs of students.

Several approaches to documenting the need for a new vocational education program and/or support service can be found in the literature. The particular format used to list the various programs or services needed is not important so long as it can be easily read and understood. What is important is identification of various evidences that do provide documentary support of the particular need in question. The conscientious planner will, of course, present evidence on both sides of the issue, should that be the situation rather than present only the data that supports his/her particular contentions. A sample format used by the Somerset County, New Jersey schools in their comprehensive vocational education planning effort is given in Sample li.

SAMPLE 11

NEED FOR VOCATIONAL PROGRAMS[22]

Technical Institute	NEED OR RATIONALE
O.R. Technician	U.S. Department of Labor in forecasts for '75 indicated increased openings in this category. Local employment trends indicate a 78% increase in yearly openings for medical technicians. between 1960-75. The trend is expected to continue.
Commercial Art	Approximately 80% of AVTS in state have initiated programs (feeders for advanced programs). Expended post-secondary program to accommodate #6 priority from Student Interest Survey. The trend in this area is leading to television. graphics, packing design. poster and window displays and the thrust will be for free lance specialists (Occupational Outlook Handbook).
Electro Mechanical Technology	Local Employment Projections indicate 157 yearly openings in 1975. The continued increase in this field has measured 45% between 1960-75. Approximately 25% of the total manufacturing industry in Somerset County is in the field of electronics.
Applied Science/Plastics	Of the large (43%) manufacturing industry in Somerset County. approximately 20% is chemical related.
Instrumentation	Instrumentation technology involves the introduction of automatic controls and precision-measuring devices in manufacturing controls. Since approximately 43% of the county's work force is involved in manufacutring. the need for trained technicians for laboratory and plant work is basic. The Occupational Outlook Handbook states demand will be greatest for post-secondary school graduate technicians.
Hotel. Motel Management	Local Student Interest Survey ranked elements of this cluster 4th and 12th in priorities. Occupational Outlook Handbook indicates a sizeable increase in low level hotel occupations. i.e., bellman and service workers. There will be a moderate rise during the 1970's for hotel management personnel.

[22]Taken from Allison L. Jackson, Developing Hearts, Hands, and Minds. (New Brunswick, NJ: Rutgers--The State University, Vocational-Technical Curriculum Laboratory, 1976), p. 69.

The next task to complete in determining the vocational programs and support services that will be recommended is the establishment of priorities. Annual plans for vocational education require each school system and college to set priorities. In simple terms, setting priorities means that agreement will have to be reached on doing some things before others. Because of the very real limitations imposed on local educational agencies in terms of available resources, the school or college can rarely, if ever, resolve all its problems or needs in a short period of time. It is important that priorities be established since some needs are generally more critical than others and some are more likely to affect a greater number of persons than others.

In setting priorities the data must be examined and, based on the factors considered most important, the programs planners and/or decision-makers must establish which needs will receive immediate attention and which ones will have to wait. However, it is recommended that planners designate when important needs that cannot be given immediate attention will be given consideration.

As with other planning processes, there are several ways to approach the prioritization of needs. When establishing local priorities, special attention should be given to:

- college or school district overall priorities and goals
- state priorities and goals
- special needs groups (the disadvantaged, handicapped, and bilingual) identified in new vocational education amendments
- needs that will help the most persons for the cost

The approach used to summarize priority rankings by planners conducting the Nashville-Davidson County, Tennéssee needs assessment is given in Sample 12. It presents individual rankings for various occupational clusters by job openings, student interests, and school personnel. The individual ranks were then summed to obtain an overall rank, which then became the basis for recommending first, second, and third priority programs. Another procedure for establishing priority rankings is outlined in the Arkansas' Guide for Local School Administrators. A portion of that procedure is presented here with only minor adaptation.

> The task of establishing priorities will ultimately be the responsibility of the local school board; however, the local vocational planner has an opportunity to present recommendations made by the local advisory council. If the opinions of other groups such as teachers or parents are desired, then some objective way such as the analysis form shown in Sample 13 might be used. A summary of the opinions of the various

SAMPLE 12

SUMMARY OF EMPLOYMENT DEMAND, STUDENT INTERESTS, AND SCHOOL PERSONNEL VIEWS BY OCCUPATIONAL CLUSTER, WITH PRIORITY RANKINGS[23]

	Job Openings		Student Interests		School Personnel		Sum of Ranks	Overall Ranks	Overall Ranks* Except Professional Clusters
	Number	Rank	Average Rank	Rank	Cumulative Score	Rank			
Clerical	2808	1	29.9	2	197.4	3	6	1	1
Hospitality	1050	3	62.0	12	152.5	12	27	11	9
Construction and Metalworking	766	5	58.5	10	210.6	2	17	4	3
Mechanics, repairmen and installers	684	7	55.5	7	213.0	1	15	2.5	2
Health services	557	8	45.6	6	194.3	4	18	5	4
Human services	765	6	57.0	9	189.3	6	21	6.5	5
Publishing/printing	201	12	33.6	4	191.2	5	21	6.5	6
Agribusiness	284	11	56.2	8	154.5	10	29	12	10
Entertainment and related fields	455	9	17.4	1	118.5	14	24	8.5	7
Sales	1211	2	75.5	13	153.2	11	26	10	8
Human services professionals	1047	4	30.2	3	161.0	8	15	2.5	
Medical professionals	398	10	35.5	5	157.2	9	24	8.5	
Applied physical sciences professionals	199	13	58.7	11	176.9	7	31	13	
Physical science professionals	19	14	79.9	14	150.4	13	41	14	

*Basis for priority recommendations:

Ranks 1-3 = First Priority
Ranks 4-7 = Second Priority
Ranks 8-10 = Third Priority

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[23]Taken from Kenney E. Gray et al., A Needs Assessment of Employment Demands/Interests for Nashville-Davidson County Metropolitan Public Schools. (Columbus, OH: The Center for Vocational Education, The Ohio State University, 1975), p. 154.

SAMPLE 13

SAMPLE FORM FOR ANALYZING PROBLEMS TO ESTABLISH PRIORITIES[24]

GROUP: Local School Board — WEIGHT: 3

N = 7	Degree of Importance: No Opinion or Unimportant	Below Average Importance	Average Importance	Above Average Importance	Very Important	For Analysis Only A = B = C: A* Column Weighted Ratings	B Total Number Respondents	C Group Mean Scores	CXWeight = D: D** Group Weighted Scores	E Priority Rating
	1	2	3	4	5					
Problem 1: Inadequate Counseling and Guidance Services	0	2	3	12	10	27	7	3.86	11.6	1
	(0 · 1 = 0)	1 · 2 = 2	1 · 3 = 3	3 · 4 = 12	2 · 5 = 10					
Problem 2: Inadequate number of training programs	0	4	9	4	5	22	7	3.14	9.4	2
	0 · 1 = 0	2 · 2 = 4	3 · 3 = 9	1 · 4 = 4	1 · 5 = 5					
Problem 3: Inadequate Training Facilities									8.5	5
Problem 4: Limited Financial Resources									8.1	6
Problem 5: Student and Parental Attitudes (Specify)									9.2	3
Problem 6: Social and Economic Factors (Factors should be specified)									9.0	4

*Column A - Frequency of Response multiplied by the assigned weight for each of the five columns
**Column B - Group Means Score multiplied by the arbitrary weight factor assigned each group

[24] Taken from Peggy W. Patrick, Planning Vocational Education: A Guide for Local Administrators. (Little Rock, AR: Arkansas Department of Education, Vocational-Technical and Adult Education, 1977), p. 25.

interest groups may be made by asking group members to rank the identified problems in terms of their opinion of the most urgent needs of the local school district. This approach lends itself to weighing responses of the different groups, i.e., local school board members response may count three times as much as, for example, a parent-thus school board members' response would be weighted with a three while a parent's response would be weighted with a one. Whether one group or several groups are involved and whether weights are assigned or not, this type of analysis form provides an objective way to establish priority ratings. The rankings for problems #1 and #2 are used as an example of one group's rankings.

Once priorities have been established, the planners will be able to make specific program and support service recommendations based on them. It should be stressed at this point that appropriate persons should be involved in these review, analysis, and recommendation making steps. The staff planning committee as well as the local advisory council have key roles to perform if the recommendations are to be accepted and eventually implemented. It is, of course, the responsibility of the local administrator by law to see that the local advisory council and appropriate others are involved.

Steps 5, 6, 7, 8, and 9 of the Vocational Education Program Planning Model are covered in the module entitled Develop Local Plans for Vocational Education: Part II.

You may wish to review one or more comprehensive local vocational education needs assessment planning documents. You may be able to obtain such a document from your resource person or you may be able to borrow one for review from a local school or university.

For information on techniques for determining the vocational program and support service needs, you may wish to read Hamlin and Muth, Planning for Vocational Education, Chapter IV.

The following items check your comprehension of the material in the information sheet, "Determining Program and Support Service Needs," pp. 77-98. Each of the five items requires a short essay-type response. Please respond fully, but briefly, and make sure you respond to all parts of each item.

SELF-CHECK

1. What three basic types of input data need to be considered when determining the vocational programs and support services needed?

2. What general guidelines should be kept in mind as data are assembled and analyzed in the vocational needs assessment process?

3. Why should existing vocational programs and support services be considered in the needs assessment process?

4. What is a discrepancy analysis and how does it become involved in the vocational planning process?

5. Why should the identified program needs be prioritized and documented?

Compare your completed responses to the "Self-Check" with the "Model Answers" given below. Your responses need not exactly duplicate the model responses, however, you should have covered the same major points.

MODEL ANSWERS

1. Consideration should be given to:

   - community data including the population characteristics, financial status, values, and expectations
   - individual needs and interest data including student interests and needs, parent preferences, and adult training interests
   - manpower needs data including both manpower demand data and manpower supply data

2. General guidelines to observe in analyzing and presenting needs assessment data include:

   - Summarize all relevant data in an easily readable and meaningful form.
   - Summarize data by type and level (e.g., manpower demand separate from manpower supply and by national, state, and local levels).

3. Existing programs and services must be considered to determine what problems or needs exist related to them and to find out what needs of the total needs that exist are being met by the current programs.

4. A discrepancy analysis in the simplest of terms involves a comparison between "what is" and "what ought to be" for the purpose of finding what needs are going unmet. In vocational education planning the "what ought to be" is the situation that would exist if all vocational education needs were being satisfied. The "what is" is represented by what currently exists in the way of programs and services that meet vocational needs. The discrepancy is the difference between the two and represents the needs planners should consider alleviating.

5. All of the identified program and support services needed should be documented as a matter of course so as to present evidence as to why some need should be met. Decision-makers have a right to expect, and should demand, evidence of need to justify the expenditures of vocational dollars. The

annual planning documents which must be submitted each year to obtain state and federal funding assistance also require justification data.

The identified program and service needs should also be prioritized because few schools or colleges will have the necessary personnel and resources needed to meet all the needs identified. Appropriate criteria should be employed in establishing the most critical needs.

LEVEL OF PERFORMANCE: Your completed "Self-Check" should have covered the same major points as the model responses. If you missed some points or have questions about any additional points you made, review the material in the information sheet, "Determining Program and Support Service Needs," pp. 77-98, or check with your resource person if necessary.

Learning Experience V

FINAL EXPERIENCE

While working in an actual administrative situation, determine vocational program and support service needs.

Develop and implement appropriate needs assessment and program planning procedures so as to determine the vocational programs and support services that should be offered by your school or college. This planning effort should include:

- analyzing the general education goals and community planning base
- assessing individual needs and interests
- assessing the manpower needs of the area
- identifying the vocational programs and support services needed
- forming a staff planning committee to assist with the assessment effort
- working with the local vocational advisory council to obtain their assistance and inputs

NOTE: While you should give overall leadership to the planning and needs assessment effort, you should, of course, involve appropriate others from the administration, staff planning committee, and local advisory council in actually planning and conducting the vocational needs assessment study.

Due to the nature of this experience, you will need to have access to an actual administrative situation over an extended period of time (e.g., 6 to 12 months).

continued

As you complete each of the above activities, document your actions (in writing, on tape, through a log) for assessment purposes.

Arrange to have your resource person review your completed documentation.

Your total competency will be assessed by your resource person, using the "Administrator Performance Assessment Form," pp. 105-107. Based upon the criteria specified in this assessment instrument and the documentation provided, your resource person will determine whether you are competent in determining vocational program and support service needs.

Name _____

Date _____

Resource Person _____

Rate the administrator's level of performance on each of the following performance components involved in determining vocational program and support service needs. Indicate the level of the administrator's accomplishment by placing an X in the appropriate column under the LEVEL OF PERFORMANCE heading. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A column.

ADMINISTRATOR PERFORMANCE ASSESSMENT FORM

Develop Local Plans for

Vocational Education: Part I

	LEVEL OF PERFORMANCE					
	N/A	NONE	POOR	FAIR	GOOD	EXCELLENT
In analyzing the general education goals and community planning base:						
1. existing general education goals were analyzed.....						
2. state and federal legal requirements were analyzed.....						
3. community values, preferences, and expectations were assessed.....						
4. the school and community financial status was reviewed.....						

	N/A	NONE	POOR	FAIR	GOOD	EXCELLENT
In assessing individual needs and interests:						
5. student vocational interests were studied.....						
6. student needs, especially needs of the disadvantaged and handicapped, were assessed.....						
7. student abilities data was considered...						
8. parent preferences were considered.....						
9. adult training interests were assessed..						
In assessing the manpower needs of the area:						
10. the geographic boundaries of the region to be considered were defined....						
11. the occupational boundaries for the assessment effort were specified.....						
12. manpower demand data pertinent to the following levels was obtained and reviewed:						
a. national level.....						
b. state level.....						
c. community or planning area.....						
13. an employer survey was conducted, if additional local data was needed.....						
14. manpower supply information pertinent to the following levels was obtained and reviewed:						
a. national level.....						
b. state level.....						
c. community or planning area.....						

In making a determination of the vocational programs and support services needed:	N/A	NONE	POOR	FAIR	GOOD	EXCELLENT
15. the total needs data was assembled in appropriate and understandable form.....						
16. the total needs data assembled was analyzed.....						
17. feedback on existing programs and support services was summarized in appropriate ways.....						
18. the data available on existing programs and services was analyzed.....						
19. the vocational programs and services needed were identified.....						
20. the vocational programs and services needed were well documented.....						
21. the vocational programs and services that would alleviate the most important needs were so prioritized.....						

LEVEL OF PERFORMANCE: All items must receive N/A, GOOD, or EXCELLENT responses. If any item received a NONE, POOR, or FAIR response, the administrator and the resource person should meet to determine what additional activities the administrator needs to complete in order to reach competency in the weak area(s).